MAR -9 1950

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MAR 16 1950

NEW EQUIPMENT DIGEST

A Penton Publication

March, 1950
Volume 15—Number 3

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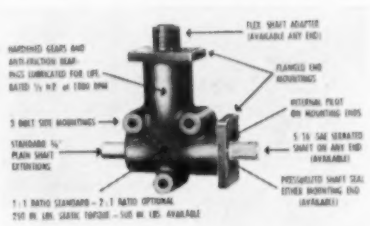
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips — Pages 4 and 68

EQUIPMENT MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

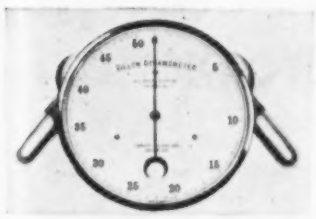
GEARED ANGLE DRIVE
universal mountings simplify design



This improved model ANGLgear standardized right-angle bevel gear drive, suitable for use in either manual or power operated systems (*See NED June '49*), includes rectangular four-hole mounting flange with internal pilot on both ends of housing. This mounting arrangement is in addition to three-hole side mounting originally employed. Unit is modified further to make available 2:1 reduction as optional feature in addition to standard 1:1 ratio. Standard unit is rated at 250 lb-in. static torque capacity or to transmit 1/3-hp at 1800 rpm continuous duty. If required, units can be furnished with 500 lb-in. static torque rating. Made by **Airborne Accessories Corp.**, 25A Montgomery St., Hillside 5, N. J.

▲ Mention Item **NED-1500** when writing ▲

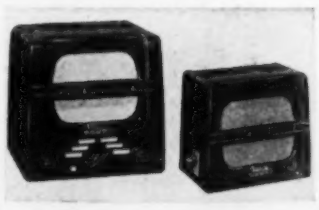
TRACTION TYPE DYNAMOMETERS
high capacity models for huge loads



Draw-bar pull, weight of bulky objects, tension in ropes or cables, static loads and other factors can be checked by means of traction type dynamometers which are available in 30,000, 40,000 and 50,000-lb capacities. They have 10-in. dials which facilitate reading and fine increment breakdown. First two models have 200-lb divisions, and illustrated 50,000-lb type has 250-lb divisions. They are all readable to one-half division. All parts are plated or otherwise protected for outdoor use. Made by **W. C. Dillon & Co.**, Dept. NED, 5410 W. Harrison St., Chicago 44, Ill.

▲ Mention Item **NED-1501** when writing ▲

INTERCOMMUNICATION SYSTEM
suitable for small businesses

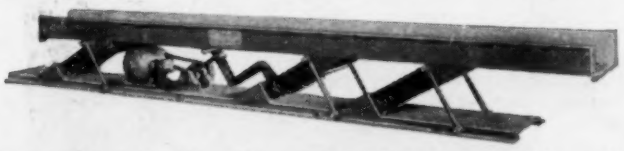


Easily installed, Teletalk master units and speaker substations are built especially for small organizations and specialized departments of large businesses. They have high degree of sensitivity and are low in cost. Made by **Webster Electric Co.**, 201 Clark St., Racine, Wis.

▲ Mention Item **NED-1502** when writing ▲

VIBRATING CONVEYOR
handles materials up to 100 fpm

Simple coil supporting springs of this S-A Natural Frequency vibrating conveyor avoid high stresses. Unit requires but 14½-in. headroom from base to trough bot-



tom. Conveying trough can be fabricated in wide variety of shapes, open or closed, with screen deck for scalping or with other variations to meet special conditions. Made by **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

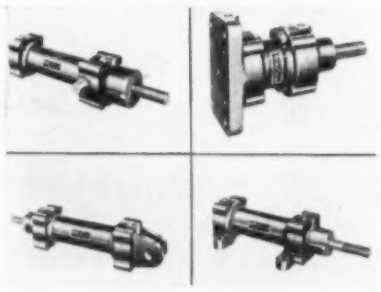
▲ Mention Item **NED-1503** when writing ▲

PHOTOSENSITIVE CLOTH
makes copies from positive original

Positive copy of engineering drawings can be produced from positive original drawing without conventional negative step by use of Kodagraph Autopositive cloth. Photosensitized cloth can be handled in normal room light and is exposed on conventional blueprint or direct-process machines or vacuum printing frame. Cloth is highly translucent, and reproductions are free from distortion. Drawings can be made on either side, using ink or pencil. Material is available in 30 and 100-ft rolls in widths of 20, 30, 36 and 42 in. Made by **Eastman Kodak Co.**, Industrial Photographic Div., Dept. E, 343 State St., Rochester 4, N. Y.

▲ Mention Item **NED-1504** when writing ▲

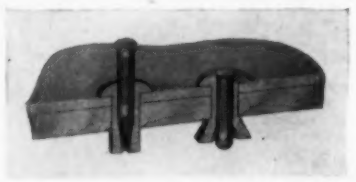
OIL HYDRAULIC CYLINDERS
in 12 standard bores from 1 to 8 in.



Designed for industrial service, these oil hydraulic cylinders can be obtained in 12 standard mounting arrangements and equipped with either standard or heavy-duty rods and with or without cushions. Features include improved cylinder head seals, multiple piping connection positions, self-adjusting packings and adjustable hydraulic cushions. Design follows practice recommended by JIC Hydraulic Standards for Industrial Equipment. Made by **Vickers, Inc.**, 1456 Oakman Blvd., Detroit 32, Mich.

▲ Mention Item **NED-1505** when writing ▲

MECHANICAL BLIND RIVET
drive pin type is hammer driven



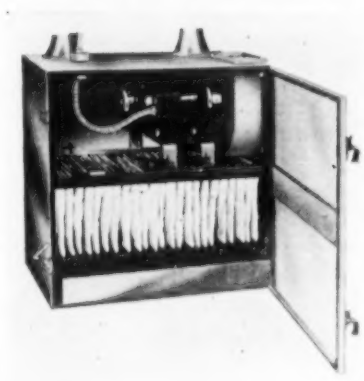
Having necessary shear and tensile strength to meet average requirements, this drive pin rivet is usable where relatively thin metal sheets are fastened to heavier sections and where heavier gage sheets are fastened to one another. Two-part assembly consists of hollow rivet member with hole tapered toward bottom and serrated drive pin assembled part way into hole in rivet. Driving pin into rivet forces rivet against top sheet of materials being fastened. This action in turn forces top sheet against back sheet. Resulting joint is tight and has high resistance to loosening in service. Made by **Cherry Rivet Co.**, 211 Winston St., Los Angeles 14, Calif.

▲ Mention Item **NED-1506** when writing ▲

GIVE

GIVE

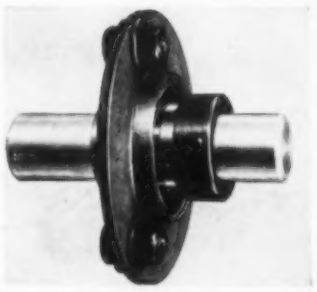
DUST COLLECTOR
built in 235 to 1025-cfm capacities



Especially suitable for use with buffing and grinding machines, this dust collector thoroughly filters dust and grit laden air through closely woven fabric and steel wool filter bags. Heavy particles in air stream are directed downward by baffle plate directly into large tray. Foot lever shakes and cleans bags into tray which is readily removable. Since air can be exhausted inside building, no outside pipes are necessary. Made by **Hisey-Wolf Machine Co.**, 1100 Marshall Ave., Cincinnati 8, O.

▲ Mention Item **NED-1507** when writing ▲

FLANGED BALL BEARING
18 sizes for ½ to 2-3/16-in. shafts



Designed primarily for light-duty slow speed antifriction bearing applications, Flangette ball bearing power transmission unit features lightness in weight, sealed-in lubrication and ease of installation. It consists of two pressed steel stampings which form housing and standard self-aligning wide inner ring type ball bearing. Made by **Fafnir Bearing Co.**, Dept. B, New Britain, Conn.

▲ Mention Item **NED-1508** when writing ▲

DO YOU KNOW? They've developed a 'cold control plan' for industry utilizing the much publicized antihistamines. Common-cold control tests are being conducted in several large manufacturing plants by competent medical authorities. Antihistamines are obtainable at pharmaceutical supply houses or drug stores. Free dispenser is available containing several hundred flat paper cups imprinted with detailed dosage instructions. Plan developed by Union Pharmaceutical Co., Montclair, N. J.

▲ Mention Item **NED-1509** when writing ▲

DO YOU KNOW? Those broken or worn taps can be restored to 'good as new' condition now that a precision tap sharpening service is available. Accurately indexed cutting edges, correct rake angle and uniformly relieved chamfers are restored. Taps will be precision sharpened and returned promptly if sent to Edward Blake Co., 437 Cherry St., West Newton 65, Mass.

▲ Mention Item **NED-1510** when writing ▲

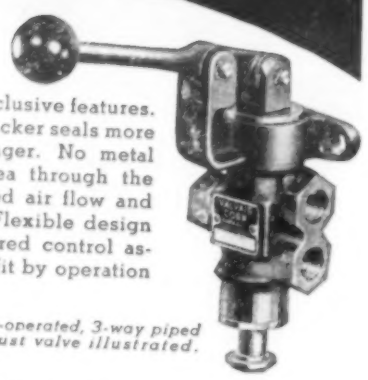
DO YOU KNOW? Pocket-size Weather Guide calculator enables user to predict accurately the weather 12 to 24 hours in advance. Predictions are based upon existing conditions of cloud formations and wind direction. Made by Aeroil Products Co., Wesley St., South Hackensack, N. J.

▲ Mention Item **NED-1511** when writing ▲

DO YOU KNOW? Normally ill-smelling rubber products can be given the scent of mountain air after a spring shower. New line of Alamask odorants is available for compounding with natural and synthetic rubber for use in pillows, mattresses, upholstery, adhesives, rubber sundries and toys. Developed by E. I. du Pont de Nemours & Co., Wilmington 98, Del.

▲ Mention Item **NED-1512** when writing ▲

VALVAIR - has an Air Control Valve ... FOR EVERY AIR CONTROL NEED



Adaptability, efficiency and dependability are had with "Valvairs" because of their many exclusive features. The unique "OU" type packer seals more effectively and lasts longer. No metal seats. Standard pipe area through the valve permits unrestricted air flow and prevents pressure loss. Flexible design allows virtually any desired control assembly. Rely on and profit by operation with "Valvairs".

★ ★ ★ *Lever-operated, 3-way piped exhaust valve illustrated.*

The VALVAIR line includes cam-, knob-, clevis-, foot-, treadle-, cylinder-, diaphragm- and solenoid-operated air control valves.

For use with air, water or oil pressures up to 175 lbs. p.s.i. and temperatures up to 120°F. 2-way; 3-way and 4-way open-end exhaust; 3-way and 4-way piped exhaust.

Sizes: ¼", ⅜", ½", ¾", 1"

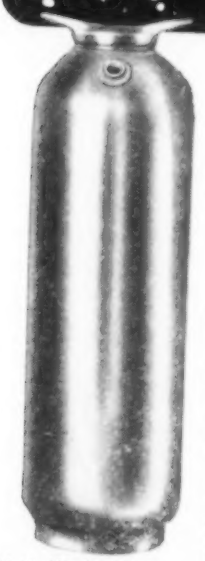
Ask for Folder "A-N".

VALVAIR CORPORATION • 454 Morgan Avenue, Akron 11, Ohio
AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair — 2-WAY → 3-WAY → 4-WAY →

▲ Mention Item NED-1513 when writing ▲

HOW DEEP IS A DEEP-DRAWN SHELL?



A typical Hackney Shell for a fire extinguisher, 40-gal. capacity, 10" in Dia. 51" high.

Shapes and shells of all degrees of depth have been made by Pressed Steel Tank Company, specialists in deep drawing for more than 45 years. Depths have ranged from a few inches up to 66 inches.

But no matter what the depth, all Hackney Shells give users many exclusive advantages: decreased overall weight, greater strength, faster production, elimination of expensive machining operations, greater durability, improved appearance, lower costs.

Perhaps you have a problem that might be solved by a Hackney Deep Drawn Shape or Shell; write us for full details.

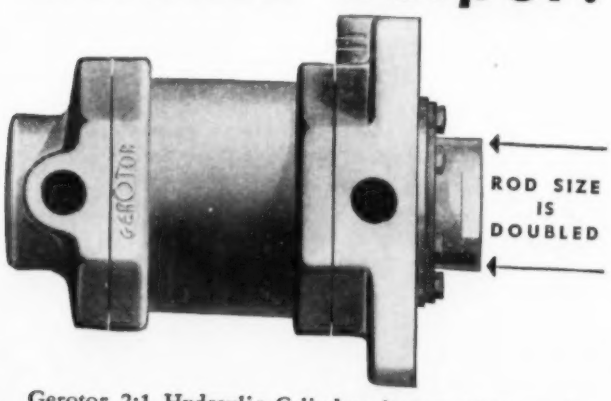
PRESSED STEEL TANK COMPANY
Manufacturers of Hackney Products
Main Office and Plant: 1450 So. 66th St., Milwaukee 14
1324 Vanderbilt Concourse Building, New York 17
255 Hanna Building, Cleveland 15
936 W. Peachtree St., N.W., Room 136, Atlanta 3
208 South LaSalle Street, Room 2093, Chicago 4
578 Roosevelt Bldg., Los Angeles 14

Hackney

▲ Mention Item NED-1514 when writing ▲

GEROTOR 2:1 CYLINDERS

Increase Output!



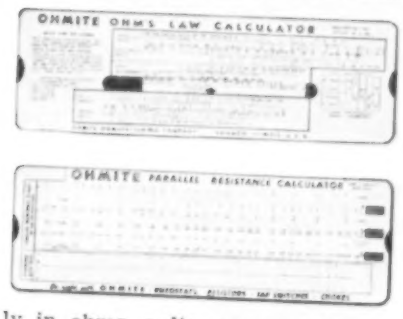
Gerotor 2:1 Hydraulic Cylinders have a piston rod about twice the diameter of a standard rod. This reduces displacement, allowing faster retraction. With cycle time shortened, the cylinder accomplishes more work. Saving is made in motor and pump size. Available in 6 mountings, in 10 bore diameters, in strokes up to 96" and with cushioning.

Write for Catalog Section 104
RIVETT LATHE & GRINDER Inc., Dept. NED3
Brighton 35, Boston, Mass.

WHEN YOU APPLY HYDRAULIC OR AIR POWER, PLAN WITH GEROTOR

▲ Mention Item NED-1515 when writing ▲

OHM'S LAW CALCULATOR incorporates standard slide rule



Of pocket-size, this redesigned Ohm's law calculator includes slide rule and parallel resistance scales. It provides simple means for solving resistance problems, and with one setting of slide, gives answer directly in ohms, volts, amperes and watts. Scales on back of instrument provide standard slide rule that will multiply, divide, raise to powers and extract square roots. Calculator is made of heavily varnished cardboard, measures 9 x 3 in. and is priced at 25 cents. Obtainable from **Ohmite Mfg. Co.**, 4854 Flournoy St., Chicago 44, Ill.

▲ Mention Item NED-1516 when writing ▲

TELEPHONE HOLDER holds pencil pad or order form

Taking orders or receiving other information over telephone is facilitated by attachment of Telostand device which holds phone, pad or form and pen or pencil. It is constructed of long-lasting plastic and is available in wide assortment of colors. Made by **G. R. Willet & Co.**, Dept. 200, 666 Lake Shore Dr., Chicago 11, Ill.

▲ Mention Item NED-1517 when writing ▲

POWDER-ACTUATED FASTENING TOOL drives studs in steel, masonry, etc.

Intended to speed fastening steel or wood to concrete or steel, redesigned Drive-It 300 powder powered tool (*See NED, July '47*) features controlled power whereby penetration of fastening pin can be varied for materials of different densities. This eliminates need for using three or four different powder charges and enables user to gage accurately power required for each job. Another innovation is use of flangeless drive-pins which are less expensive than formerly used flanged pins and eliminate necessity for digging sheared flange from barrel. Tool also features three-way safety semisilent operation, 'twist of the wrist' firing, built-in safety pad and automatic extension barrel which enables user to reach in narrow places. Made by **Powder Power Tool Corp.**, 0719 S. W. Woods St., Portland 1, Oreg.

▲ Mention Item NED-1518 when writing ▲

Special CUTTING TOOLS with GUARANTEED PERFORMANCE

H. S. S. or CARBIDE TIPPED

Detroit Reamer & Tool Co. has specialized in the design and manufacture of special cutting tools of H.S.S. and carbide for 12 years. This experience qualifies them to help you with the design of special cutting tools that are *guaranteed* by Detroit Reamer to give specified performance. In addition, their shop facilities are geared for the making of "specials" and that means lower costs to you . . . positive assurance for you of dependable cutting tools at lowest cost. Have our engineers look over your cutting tool problems or quote on your own designs.

DETROIT REAMER & TOOL CO.
Mfrs. of Special High Speed Cutting Tools
2830 East 7 Mile Rd. Detroit 34, Michigan

▲ Mention Item NED-1519 when writing ▲

AT LAST! A LOW PRICED STRAIGHT EDGE THAT stays straight . . .

LOOK AT THESE BIG FEATURES OF THE **REGELE** STRAIGHT EDGE

Made of S. A. E. 1095 Steel . . .
Hardened and tempered to 40/45C Rockwell . . .
Edges ground to .005" . . .
Thickness .093" . . . Width 2¾" . . .

● *Guaranteed to retain accuracy under normal shop usage!*

AVAILABLE IN 36" . . . 48" . . . 75" lengths.		
3 foot	$ 8.50	4 lbs.
4 foot	12.00	5 lbs.
75 inch	15.00	6 lbs.

f. o. b. Lancaster, Pa.
Distributorships in several choice territories still available — write!

M-M-A INC. — BOX 411—Lancaster 1, Pa.

▲ Mention Item NED-1520 when writing ▲

BROWNING Gripbelts

MATCHED AND SEALED FOR YOUR PROTECTION

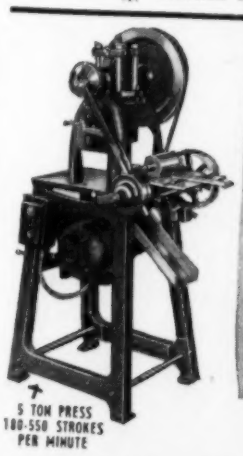
Accurately matched to assure uniform performance and long life. Securely sealed with wire and lead slug to keep the set together until installed on the machine.

Nationwide Service—Write for the name of the BROWNING Gripbelt Distributor near you

BROWNING MANUFACTURING COMPANY
INCORPORATED
MAYSVILLE, KENTUCKY, U. S. A.

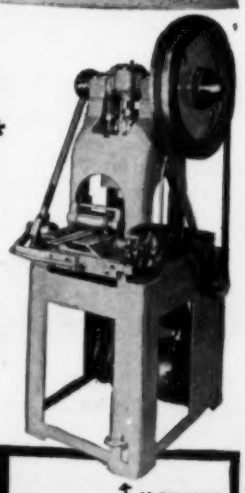
▲ Mention Item NED-1521 when writing ▲

$1250.00 INVESTMENT RECOVERED IN 83 WORKING DAYS



5 TON PRESS 180-550 STROKES PER MINUTE

with DIEBEL HI-SPEED AUTOMATIC PRESS & DIE*



Production was boosted from 52,000 pieces to 95,000 pieces per day. Maintenance charges were reduced and floor space requirements cut. Costs were permanently lowered and a better competitive position reached. This is what a manufacturer accomplished by replacing conventional equipment with our Hi-Speed Automatic Press.

Ask Us What We Can Do For You

*Die designed and built in our modern tool room.

DI MACHINE CORP.
2701 IRVING PARK ROAD, CHICAGO 18, ILL.

12 TON PRESS 65-300 STROKES PER MINUTE

▲ Mention Item NED-1522 when writing ▲

PRODUCTION MEN!

• GET THE *RIGHT* TAPE FOR *YOUR* JOB!
• CUT COSTS... IMPROVE METHODS!
• GET A SPECIFIC...

Polyken®
INDUSTRIAL TAPE

Trying to speed and improve methods or cut costs on a specific operation? Then choose one of the many versatile tapes in the broad POLYKEN line.

Write today for your free copy of "Tape Is a Tool," handy reference booklet that will help you select the *right* tape for your specific job. Address POLYKEN, Dept. 10-3, 222 W. Adams St., Chicago 6.

Specific Tapes for Specific Uses
- Bundling
- Tying
- Holding
- Sealing
- Insulating
- Weatherproofing

...or you name it

Polyken® INDUSTRIAL TAPE
DEPARTMENT OF BAUER & BLACK
DIVISION OF THE KENDALL COMPANY
222 W. ADAMS ST., CHICAGO 6

Mention Item NED-1523 when writing

RE-NU TOP
STEEL-BOUND SKID PLATFORMS

BUILT TO LAST A LIFETIME

500 LB. LOAD UP TO 10 TONS

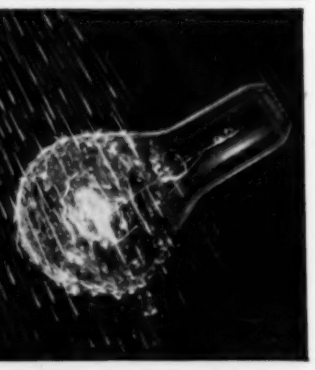
Designed to fit your loads and equipment. Plain bolted construction for use with hand lift trucks or bolted and welded under frame with armored ends for rough handling by powered trucks. Special purpose skids can be equipped with end racks, shelves, stake pockets, crane hooks, rounded corners and other special features.

SECTIONAL BINS — ROLLAWAY SKIDS — SKID-BOXES

THE LANHAM COMPANY
Magnolia & 12th Sts., Louisville, Ky.

Mention Item NED-1524 when writing

"Weathercote"
Stops Costly Lamp Failures



Water test demonstrates how "Weathercote" saves expensive lamp replacements.

THIS low cost all-purpose Amplex lamp saves expensive lamp replacements indoors or outdoors. Cuts lamp mortality up to 75% where moisture, steam or outdoor weather kill ordinary lamps too soon. Costs just a fraction more than ordinary lamps.

DOUBLE DUTY A money-saving extra-service 2000-hour lamp that cuts lamp replacement costs almost in half. Perfect for high bay and hard to reach locations, and for rugged installations where ordinary lamps burn out too soon.

DELIVERS MORE LIGHT Pure silver-lined sealed-beam reflector lamps that deliver more light on the work area — that maintain maximum reflecting brilliancy for the life of the lamp.

amplex
industrial infra-red heat lamps • street lamps • fluorescent lamps • rough service lamps • vibration service lamps.

Write for catalog and sample lamps to Amplex Corporation, Dept. 33, 113 Water St., Brooklyn 1, N.Y.

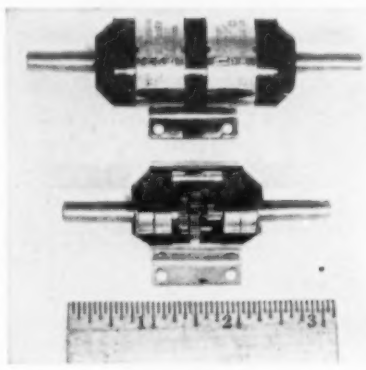
Mention Item NED-1525 when writing

PORTABLE SOLDERING SET
electric unit provides 24 heats

Having 450-w capacity, Glo-Melt portable soldering unit can perform all types of soldering operations including silver soldering and brazing. It employs lightweight handpiece which accommodates copper-jacketed carbon 'pencil' that can be ground to variety of shapes and does not require tinning. When electrode is brought into contact with work, it glows red; and flux-core solder flows to pieces being joined. When removed from work, carbon immediately cools. Power is used only when contact is maintained. Unit can be plugged into standard electrical outlet. Made by **Wasserlein Mfg. Co.**, 7400 Third Ave. N., St. Petersburg 6, Fla.

Mention Item NED-1526 when writing

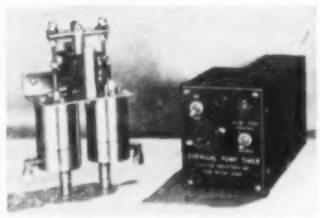
MINIATURE SPEED CHANGERS
feature 96-pitch precision gears



Precision - hobbed gears are now available in this line of miniature speed changers to provide improved angular accuracy, quieter operation and half the backlash of extruded 48-pitch gears used in standard units. Changers can be obtained in single or multiple sections with more than 500 different ratios and are recommended for use in instruments, controls, computers and recorders. They are tentatively rated at 1/50-hp with speeds as high as 20,000 rpm on high speed shaft and torques as high as 1½ lb-in. on low speed shaft. Made by **Metron Instrument Co.**, 436 Lincoln St., Denver 9, Colo.

Mention Item NED-1527 when writing

METERING PUMP
is electronically controlled

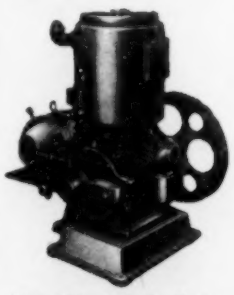


Operated by electronically controlled solenoid which provides variable control of number of strokes per unit time, this pump permits remote control of accurate metering. Additional adjustment of length of stroke is available to maximum output of 0.8-cu in. per stroke. Precision construction of type 316 stainless steel and direct coupling between solenoid plunger and piston result in efficient and compact unit with low power requirements. Made by **Eastern Industries, Inc.**, 304 Elm St., New Haven 6, Conn.

Mention Item NED-1528 when writing

Get Greater Efficiency in High Vacuum Processes

Type SS — Single Stage Rotary Pump for vacuum to 5 mm. on tight system, for dry or semi-wet work. Capacities — 6 to 375 c.f.m.



Type RP — Single Stage Rotary Piston Pump for vacuum to 10 microns; for dry or wet operations. Capacities — 17 to 845 c.f.m.

BEACH-RUSS High Vacuum ROTARY PUMPS

- Faster Pump Down
- High Mechanical Efficiency
- Lowest Pressures
- Longer Service

For vacuum processing or packing, metal refining, sintering, coating, impregnating, clay deairing, electronics, nuclear research, instrument testing, air conditioning, laboratory and other vacuum operations—Beach-Russ Pumps assure faster, more efficient operation in every way. Their many superior, proven features of design and construction merit your earnest consideration. Write for Catalogs.

BEACH-RUSS CO.
60 Church St., New York 7, N. Y.

Mention Item NED-1529 when writing

IDEAL "Hand-Type" CLEANER

SUPER POWER • VALUE PERFORMANCE

1-1/3 HP motor—Weighs only 14½ lbs. Also 1/2 and 2/3 HP models.

BLOWS concentrated blast of dry air at 300 *miles* per hour. Blows grit, dust and lint from hard-to-get-at places. Evaporates moisture.

VACUUMS dirt, metal, lint and wood particles, bench litter, etc.

SPRAYS paint, varnish, lacquer, insecticides and deodorants.

Does a Better Job—on Any Job!

TRY IT Free!

SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS

IDEAL INDUSTRIES, Inc.
1032 Park Avenue, Sycamore, Illinois

Give us FREE DEMONSTRATION of the IDEAL "Hand-Type" Cleaner in our plant.

Name_____
Company_____
Address_____
City_____ Zone____ State____

Mention Item NED-1530 when writing

Graham
THE FINEST Variable Speed Drive MADE

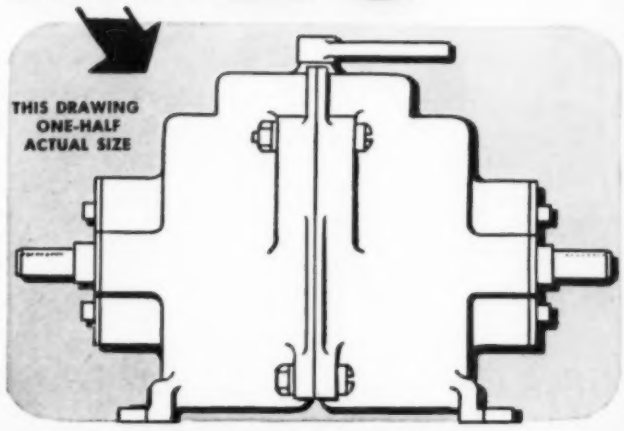
1. GUARANTEED MOST ACCURATE
2. WIDEST RANGE
   All speeds from top to zero (plus reverse if wanted without stopping motor)
3. MOST COMPACT

NOW IN A NEW MIDGET SIZE

$29.75 F. O. B. Milwaukee

Price to O.E.M. Buyer, less quantity discount

MODEL 10



ONE-HALF SIZE VIEW OF THE MODEL 10 The Model 10 is ideal for small machines such as pumps, feeds and feeders, business machines, instruments, recorders, controllers, etc. etc.

MODEL 10 SPECIFICATIONS
H.P. OUTPUT — 1/15 H.P.
INPUT SPEED — 1800 RPM standard — other as required
OUTPUT SPEED — from 2/3 input speed to zero and reverse
TORQUE — 50 in. oz.
CONTROL — Finger-tip lever — 60° motion.
LUBRICATION — sealed-in oil or grease.

OTHER SIZES UP TO THREE HP — For quick delivery of a Model 10 or full data on the Graham line, use the coupon, or return the Reader Service Card inserted in this magazine.

GRAHAM TRANSMISSIONS INC., 3754 N. Holton St., Milwaukee, Wis.

☐ Enter our P.O. No._____ for_____ Model 10 (Quantity)

☐ Send full data on the Graham Drive in sizes up to 3 HP, no obligation.

Company_____
Name_____ Title_____
Address_____
City_____ Zone____ State____

Mention Item NED-1531 when writing

STEEL

Every Kind
Quick Delivery

NEARBY STOCKS INCLUDE:

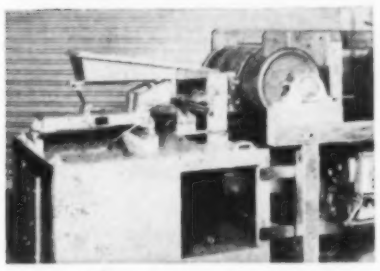
BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.
PLATES—U, M. & sheared, Inland 4-Way Floor Plate
SHEETS—hot & cold rolled, many types & coatings
TUBING—seamless & welded, mechanical & boiler tubes
STAINLESS—Allegheny sheets, plates, bars, tubing, etc.
REINFORCING bars & access.
BABBITT bearing metal
MACHINERY & TOOLS for metal fabrication

RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco

Mention Item NED-1532 when writing

AGITATING SEPARATOR
nonelectric magnetic unit effects separation of valued materials



This agitator separator effects physical separation of magnetic and nonmagnetic products by agitation before material reaches most powerful areas of magnetic field. Unit employs permanent magnetic pulley, surface of which consists of lengthwise slats of magnetic Alnico alternated with slats of nonmagnetic material. Tilted receiving chute distributes material to be separated to nonmagnetic vane assembly from which it passes to pulley belt. Heart of separator consists of several baffles of nonmagnetic metal. Two induction arms reach over pulley, and their reaction to north and south magnetic poles causes flutter in vane assembly.

As material reaches magnetic field of pulley, magnetic particles 'walk' through feeder onto surface of pulley-belt and adhere to it until carried out of magnetic field, where they drop into receptacle. About 90 per cent of magnetic material is withdrawn as it reaches first vane on feeder. Remaining material again passes lower face of pulley where magnetic particles re-enter magnetic field and virtually complete separation is effected. Made by **Eriez Mfg. Co.**, 1325 E. Twelfth St., Erie, Pa.

Mention Item NED-1535 when writing

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—with "HARDSTEEL"

BLACK DRILL COMPANY
Division Black Industries
1380 East 222nd St. • Cleveland 17, Ohio

USE "HARDSTEEL" TOOL BITS FOR FASTER, DEEPER CUTS

Mention Item NED-1539 when writing

With
DAYTON ROGERS

LAYOUT FLUID

Speed up your lay-out work time, relieve eye-strain and improve accuracy. No time wasted polishing surface. Just wipe off and apply this deep Die Blue with brush. DRIES INSTANTLY! Use on steel, brass, aluminum, stainless steel, tin, copper. Also splendid for periodic piece inspection to check accuracy of production runs, all tool work, etc.

DAYTON ROGERS *Manufacturing Company*
MINNEAPOLIS, 7, MINN.

SEND FOR YOUR FREE SAMPLE

Mention Item NED-1533 when writing

BAND SAWS
for wood, plastics and light metals

Comprising 10, 12 and 15-in. sizes, redesigned line of band saws features one-piece cast wheel guards which unlock with one knob and swing aside easily for quick inspection of both upper and lower wheels at same time. Other improvements include heavier cast-iron frames, ball-bearing blade guides for reduced wear, and large accurately ground work tables with extensions. Two larger sizes also have provision for built-in lights which furnish ample illumination for work table. On heavy duty 15-in. model, work table is slotted for working with miter gage. Made by **Duro Metal Products Co.**, Dept. ND1, 2696 N. Kildare Ave., Chicago 39, Ill.

Mention Item NED-1536 when writing

DO YOU KNOW? Random Clear, the recently announced Insulux glass block design which has transparency of melting ice, is now available in 12-in. size for use in decorative panels. In these blocks, no two faces are identical so that random effect is obtained. Made by American Structural Products Co., Toledo 1, O.

Mention Item NED-1537 when writing

THE NEW *fmc*
ALL-PURPOSE INDUSTRIAL NAILER

WILL MAKE IT *Better* AND FOR *Less*

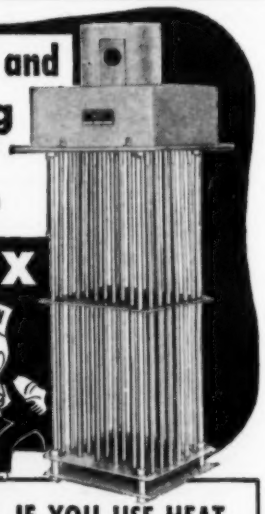
The Driver head is designed to operate at 120 strokes a minute; in-line or staggered nailing; maximum width 58"; maximum depth up to 28" depending on width; fully adjustable for 3d to 8d nails. The FMC engineering staff can readily adapt this nailer to your particular industrial nailing problem.

Write for Bulletin *124*

FOOD MACHINERY & CHEMICAL CORPORATION
Packing Equipment Division ★ Riverside, California
M-11B

Mention Item NED-1540 when writing

For AIR DUCTS and Recirculating OVENS
Needing Temperatures From 400° F TO 1,000° F



CHROMALOX
TYPE TDH Heavy-Duty *Electric* HEATERS

Quickly and easily installed CHROMALOX Type-TDH Heaters give efficient, dependable heat for core drying, heat treating, annealing ovens, air ducts and similar applications. Operating temperatures up to 1000° F are easily achieved and accurately maintained by thermostats. Standard units in 6 Kw to 60 Kw ratings. An Application Engineer will show you how these and other CHROMALOX Heaters give you year round service with increased efficiency at less cost. Write today for details.

IF YOU USE HEAT
Get this Useful Booklet
Its more than 50 photographs show many time and money saving ways to use electric heat. Write today.

EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.
See other advertisement on page 51
CHROMALOX
IB-90
ELECTRIC HEAT FOR MODERN INDUSTRY

Mention Item NED-1534 when writing

CASE No. 225
Automobile Plant
Name on Request

$17,500 installation paid for itself in 4 months. Increased in-process storage from 800 to 3000 components.

(a) Savings in Effort (estimated) 25%
(b) Savings in Time (estimated) 25%
(c) Savings in Space..... 375%
(d) Savings in decreasing rejects

Above is one of the many case histories (condensed) giving brass tacks facts, actual dollars saved, with Logan Conveyors. At one, two, or more operations in your plant perhaps you, too, can make profitable use of Logan equipment. Write today for your copy of new book "Key to Lower Costs."

Logan Conveyors
LOGAN CO., 215 CABEL ST. • LOUISVILLE 6, KY.

Mention Item NED-1538 when writing

SCHMIDT
SOLDERING *and* OPEN FLAME
TORCHES

Continuous Heat!
Heat is easily regulated and maintained at any desired temperature.

Instant Heat!
Use artifical gas, bottled gas, natural gas or gasoline.

Very Economical!
A moderate investment in Schmidt Equipment will step up production, reduce costs and increase profits.

WRITE TODAY FOR CIRCULAR

for all Soldering, Open Flame Work, Brazing, Branding, Laboratory Use, etc.

MINN-KOTA Foundry & Mfg. Co.
DEPT. 510 FARGO, NORTH DAKOTA

Mention Item NED-1541 when writing

HOLTITE-Phillips Recessed Head Screws and Bolts cut fastening time in half. Spiral and power drivers can be safely used, even on finished parts, by women and green hands. Easy driving in hard-to-get-at places. Stronger, neater, vibration-resisting fastenings.

CONTINENTAL SCREW CO. NEW BEDFORD, MASS., U.S.A.

HOLTITE standard line of slotted head fastenings comprises a complete range of precision-made assembling units with structural strength beyond ordinary demands. There's a HOLTITE product for every use and purpose. Specify them on your next order.

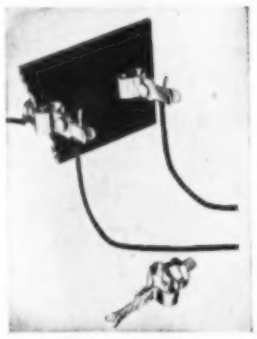
▲ Mention Item NED-1542 when writing ▲

WIRELESS COMMUNICATOR uses 110-v system as carrier

This Vocatron carrier-call wireless two-way intercommunicator can be plugged into any standard 110-v electrical receptacle. It provides instantaneous communication between any two sets with similar frequency settings on same power line within range of 1 mile. Unit measures 5¼ x 4¾ x 6¾ in. and weighs 4 lb. Made by **Vocaline Company of America, Inc.,** 100 Bristol Bldg., Old Saybrook, Conn.

▲ Mention Item NED-1545 when writing ▲

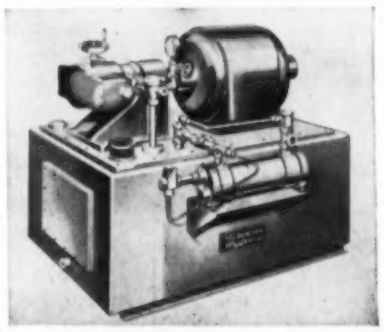
WIRE CONNECTING CLIP facilitates testing of equipment



Designed for testing assembly line products and for experimental apparatus in laboratories, this test clip can be permanently mounted on panel of any test equipment or, for one-time applications, mounted temporarily. Leads are simply slipped in or out of clamp type jaws; spring action holds wire firmly until operator pulls out lead. Tension of spring action is adjusted by tightening hex nut that mounts clip to panel. Made by **Grayhill,** 4524 W. Madison St., Chicago 24, Ill.

▲ Mention Item NED-1546 when writing ▲

OIL-HYDRAULIC PUMPS for regulative pressures to 5000 psi



Available in 22 models with capacities from 9 to 35 gpm, these oil-hydraulic pumping units are of axial piston type and deliver either constant or variable volume. Each unit consists of reservoir base with all operating components including pump, relief valve, gages and electric motor drive mounted on removable top cover. Welded steel reservoir is obtainable in capacities of 55, 110 and 165 gal. Variable volume pumps can be supplied with choice of handwheel, pressure compensating, stem or cylinder control of oil delivery. Motors range from 5 to 75-hp rating according to service requirements. Accurate control of pressure within range can be made with threaded body type relief valve. Heat-exchanger type oil cooler and vacuum gage to permit checking oil filter condition can be obtained as optional equipment. Made by **Denison Engineering Co.,** 1152 Dublin Rd., Columbus 16, O.

▲ Mention Item NED-1547 when writing ▲

For the latest in new equipment don't miss the–

INDUSTRIAL Cost-Cutting EXPOSITION

APRIL 10-14 (inclusive) PHILADELPHIA, PA.

Write for an advance registration form

AMERICAN SOCIETY OF TOOL ENGINEERS

10700 Puritan • Detroit 21, Mich.

▲ Mention Item NED-1549 when writing ▲

Put these advantages in your product with Marvinol® VR-10

In hundreds of processes . . . in thousands of end products, Marvinol VR-10 is giving processors the characteristics that mean sales. Marvinol formulations are stable under heat, light and time . . . have high dimensional stability, greater low-temperature flexibility, outstanding resistance to tear, wear, oils and acids. Let us show you how to utilize Marvinol's time-saving advantages. All technical information developed in our modern laboratories is at your disposal since it is through you that Marvinol reaches the consumer.

Write today for the latest technical information. Dept. E-3, Naugatuck Chemical, Naugatuck, Conn.

Marvinol

Naugatuck Chemical

DIVISION OF U. S. RUBBER COMPANY

▲ Mention Item NED-1543 when writing ▲

NOW! Up to 6 Records of pH on one round chart!

● With but one instrument and one pH amplifier, records of as many as six pH measurement points may now be obtained on a *single round chart.* This means initial savings as high as 60% or more, as well as greatly simplified installation. The instrument which makes this possible is the new and altogether unique Foxboro Multi-Record Dynalog* Electronic Recorder. Supplied with flow-type or immersion-type electrodes. Foxboro Recording Controllers also available.

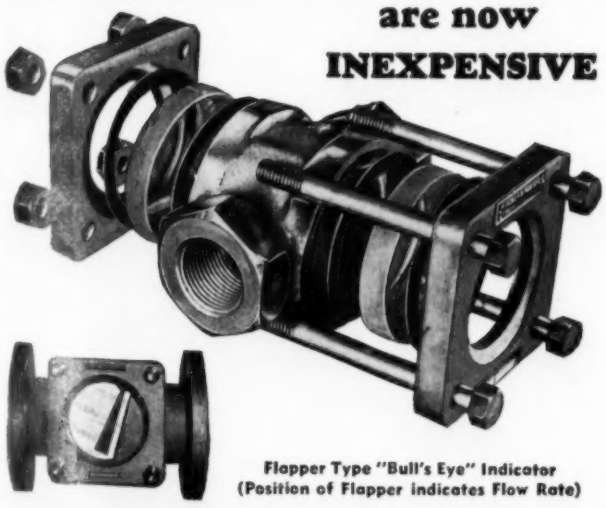
The Foxboro Company, 134 Neponset Ave., Foxboro, Mass., U.S.A. Branches in principal cities.

*Reg. U. S. Pat. Off.

FOXBORO Reg. U. S. Pat. Off. pH RECORDERS

▲ Mention Item NED-1550 when writing ▲

Quality Sight Flow Indicators are now INEXPENSIVE



Flapper Type "Bull's Eye" Indicator (Position of Flapper indicates Flow Rate)

F&P "Bull's Eyes" have double windows, flanged covers (no threads to corrode and seize) and through-bolted construction. They are suitable for normal and corrosive service and for low and high pressures. A ½" screwed cast iron "Bull's Eye" costs $10.00, as little as $8.00 in larger quantities.

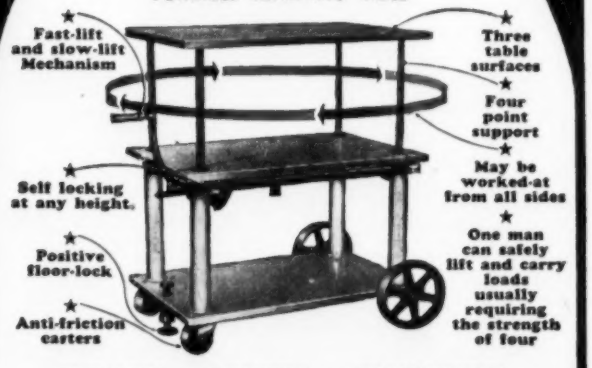
At your request we'll mail catalog 93 (which illustrates the complete line) and a price list.

FLOWRATOR Trade Mark • FISCHER & PORTER CO. Dept. ON-ID Hatboro, Pa.

▲ Mention Item NED-1544 when writing ▲

UP YOUR PROFITS DOWN YOUR COSTS

PORTELVATOR the HANDY HAMILTON PORTABLE ELEVATING TABLE



ELEVATES • LOWERS • TRANSPORTS

Table locks securely wherever stopped.

WILL NOT TIP OR SLIP

A work bench when and where you need it.

WRITE FOR BULLETIN

giving detailed data

DO IT NOW

THE Hamilton TOOL COMPANY

SUPER SENSITIVE DRILLING MACHINES · TAPPING MACHINES · PORTELVATORS

901 HANOVER STREET • HAMILTON • OHIO • U • S • A

▲ Mention Item NED-1548 when writing ▲

Poro-Stone Filtration FOR COMPRESSED AIR

EFFICIENTLY REMOVES

OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 105.

R. P. ADAMS CO., INC.

227 E. Park Drive • Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ Mention Item NED-1551 when writing ▲

MOLYBDENUM
High Speed Steels

Do leading tool manufacturers rely on these steels? Why?

- One manufacturer alone offers a full line of 20,000 items, all made of Molybdenum high speed steel—over 200,000 tools have been sold by this one producer.
- Users' reports of Molybdenum high speed tools *everywhere* indicate that performance at least equals and in many cases betters that of tungsten tools.
- Performance of Molybdenum high speed steels must obviously be equal to or better than tungsten steels.
- If famous finished tool manufacturers pin their reputation to Molybdenum high speed steels, why don't you cash in on these cost-cutting tool steels?

Our FREE booklet gives full information data, tests, heat treatment—write now.

This book sent to you FREE

Climax Molybdenum Company
500 Fifth Avenue · New York City

HS6

▲ Mention Item NED-1554 when writing ▲

NEW...

Extremely sensitive
PRESSURE & VACUUM
Switches

TYPE SB

The new Type SB pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of cut-in and cut-out settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-15 psi and adjustable on-off differential from .1" wc-10" wc. They may be furnished as calibrated, micrometer type or uncalibrated for screw driver adjustment.

Electrical ratings at 125/250 V AC between 1200 watts and pilot duty depending on differential. The Vacuum Switches offer adjustable ranges from 30"-0" hg vac with adjustable on-off differential from .1" wc-10" wc. Furnished as calibrated micrometer type or uncalibrated with screw driver adjustment. Electrical ratings of both models 1200 watts at 125/250 V AC.

Special models available for requirements not included in the specifications above.

Write for new bulletin 4926 P giving complete details today.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street
Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

▲ Mention Item NED-1555 when writing ▲

PRODUCTION THREADER
for
Pipe and Bolts

OSTER

- Oster No. 702 "WILCO" threads the regular range of ¼" to 2" pipe; extra range ⅛" pipe; and bolt range ¼" to 1½". Maximum length of thread cut without regripping the stock . . . 14½". Speed selector switch and push button controls for standard voltages speed up operation of machine.

Other features include 3-speed motor, (900-1800-3600 RPM and spindle speeds 40-80-160 RPM); worm gear drive with ball bearing mounted spindle; "SPINFAST" wrenchless front chuck; non-locking rear centering chuck; quick-opening, adjustable die-heads with segmental dies; and individual drive centrifugal coolant pump.

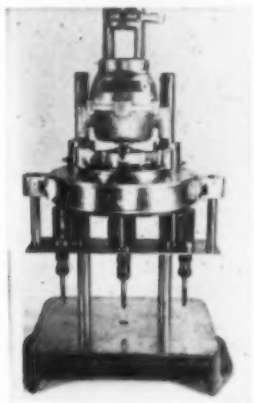
Carriage travel . . . 14¾". Spindle bore—2½". Height to center of spindle—42". Floor space required—2 ft. 3 in. x 5 ft. 10 in. Height overall—3 ft. 11½". Net weight 1650 lbs.

Write for No. 702 "WILCO" Bulletin.

THE OSTER MANUFACTURING CO.
2066 EAST 61st STREET • CLEVELAND 3, OHIO, U.S.A.

▲ Mention Item NED-1556 when writing ▲

DRILLING-TAPPING HEAD is adustable multiple-spindle type



Flexibility in drilling or tapping parts with hole sizes up to and including $\frac{5}{16}$-in. is afforded with Ettco-Emrick adjustable multiple-spindle head which can be mounted on any drill press. Spindle adjustments can be made easily from minimum center distance of $1\frac{1}{16}$ in. to maximum of $7\frac{5}{8}$ in. Spindle also can be located at any point within $3\frac{5}{16}$-in. diameter circle. Template is used to locate holes accurately for given hole pattern. With bed plate, components are tied together same as punch and die. Head is available with two, three, four or five spindles. Made by **Ettco Tool Co.**, 573 Johnson Ave., Brooklyn 6, N. Y.

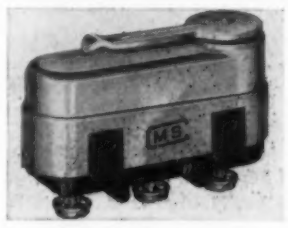
▲ Mention Item NED-1557 when writing ▲

CERAMIC VALVE features high corrosion resistance

Available in ½, ¾, 1, 1½, 2 and 3-in. sizes, Merit ceramic valve has ceramic body suitable for continuous operation at 300 psi at temperatures up to 2000° F. It can be used for controlling flow of highly corrosive gases and concentrated or diluted chemicals with exception of hydrofluoric acid and hot alkali concentrate. Valve stem also is ceramic and incorporates alternate hard and soft Teflon packing rings as seals. Unit is designed for attachment to 300-lb standard ASA flanged fittings by stainless steel cap screws, and stainless studs can be mounted permanently in valve body if desired. Made by **Emmett Machine & Mfg. Co.**, 2249-13 Fourteenth St. S.W., Akron 14, O.

▲ Mention Item NED-1558 when writing ▲

SNAP-ACTION SWITCH is hermetically sealed unit

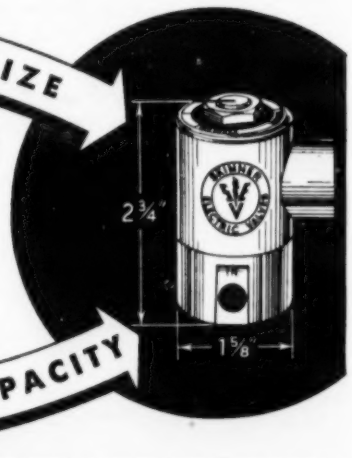


Electrical or mechanical operation of No. 1HS1 small size switch is unaffected by corrosive atmospheres, change in atmospheric pressure or change in temperature. It can even be operated under oil and other fluids. Size, design and mounting holes are such that unit is interchangeable with Micro type Z Pin plunger basic switches and can be used in all actuators and housings made for these switches. Circuit arrangement is single-pole double-throw. Current capacity at any altitude at 28 v dc is 25 amp, resistive; 10 amp, inductive. Made by **First Industrial Corp.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

▲ Mention Item NED-1559 when writing ▲

SMALL IN SIZE

Solenoid
STAINLESS STEEL
Valves



LARGE IN CAPACITY

THREE WAY-Two Position-Normally Closed-Normally Open-Directional Flow
TWO WAY-Normally Closed **TWO WAY-Normally Open**

Skinner Solenoid Valves are extremely compact yet have unusual capacity—a great asset to designers looking for positive, accurate, long-lived controls for liquid and gaseous media. Available in standard pressure range of 5 to 250 p.s.i. and special from 5 to 850 p.s.i. Impregnated coils withstand moisture. Soft insert seats prevent leakage. Spring loaded for positive action. Usable in any position. Power consumption of 10 watts max. Pipe connections available to your specifications.

Write for Bulletin No. 491

SKINNER ELECTRIC VALVES

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
135 Belden Ave., Norwalk, Conn.

▲ Mention Item NED-1560 when writing ▲

SHENANGO-PENN *Centrifugal* CASTINGS ... KEY TO SAVINGS

Extra life for symmetrical parts

This special bronze forming roll cover is typical. A Shenango-Penn *centrifugal* casting, it combines exceptional uniformity with fine, pressure-dense grain and freedom from common, often hidden defects such as sand inclusions and blow holes.

The result is greatly prolonged wear life plus extra strength to withstand abnormal loads, speeds and shock without risking costly failure in service.

Save time and money! If you need cylinders, sleeves, liners, rings, rolls or other symmetrical parts, ferrous or non-ferrous, large or small, rough or machined, try Shenango-Penn.

ASK FOR BULLETIN
No. 143—Centrifugal castings of non ferrous metals and alloys
No. 144—Centrifugal and static castings of plain and alloyed irons.
No. 145—Centrifugally cast bushing stock in all standard sizes

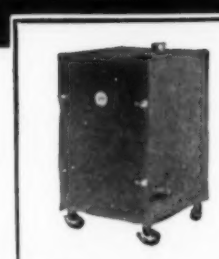
SHENANGO-PENN MOLD COMPANY
883 West Third Street Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO PENN
All Bronzes • Monel Metal • Hi-Resist • Mechanite Metal

▲ Mention Item NED-1561 when writing ▲

EASY TO SOLVE

"The next card I turn over will be the card you selected." (This is an old one with variations that we'll explain if you write us. It's free, of course.)



TORIT DUST COLLECTORS in mobile units

When lathes, grinders, etc., are used intermittently, one Torit Dust Collector can often be used. For this service we offer cabinets mounted on casters, and equipped with flexible suction tube assemblies.

Dust problems are easy to solve when you use
TORIT DUST COLLECTORS

Torit Dust Collectors are self-contained units, compactly designed to fit into your production setup. They can be placed almost anywhere, and usually require only a few feet of piping.
Torit Dust Collectors run only when the machine is operating, to minimize power consumption. The filtered air is recirculated into the room so no outside vents are necessary.
Torit Dust Collectors are stocked for immediate delivery. If you will outline your dust problem, our engineers will be glad to suggest types and sizes, and quote figures.

Torit Mfg. Co.
298 Walnut St. St. Paul 2, Minn.

P.S Ask for latest Torit catalog.

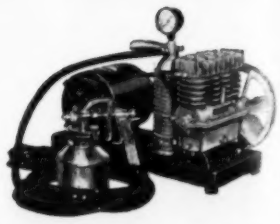
▲ Mention Item NED-1562 when writing ▲

PAINT YOUR PLANT WITH THIS FOUR CYLINDER PORTABLE SPRAY PAINTING OUTFIT

Your own maintenance men can do it faster, cheaper and better with

PRESSURE QUEEN

- The only portable air compressor having four cylinders in the space usually required for a single cylinder. Absolutely no pulsation.



Write for Literature

THE CAMPBELL-HAUSFELD COMPANY
193 RAILROAD AVENUE HARRISON, OHIO

▲ Mention Item NED-1563 when writing ▲

SOLVENT FUMES CAN CAUSE DISASTER!

Clean Machines Safely with Non-Inflammable, Non-Toxic

PENETONE SENIOR

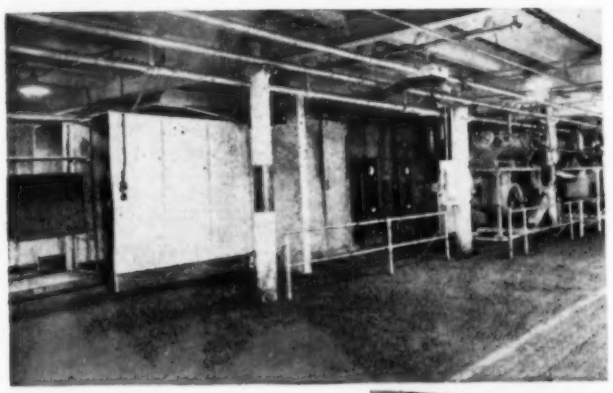
Hundreds of America's leading plants have switched to PENETONE SENIOR, for safer, more thorough cleaning at lower cost. It's non-inflammable, non-toxic. It will take care of 85% of your cleaning jobs—machines, floors, tools or parts — *without danger of fire, and without toxic fumes.* What's more, PENETONE SENIOR is safe on all surfaces—wood, concrete and composition floors, painted walls and all metals including aluminum.

Send for performance-proven Field Service Reports on Plant Maintenance and Direct Contact Degreasing.

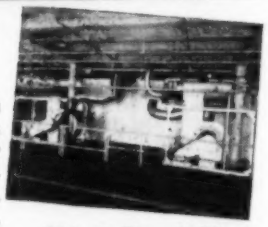
THE PENETONE CO.
BOX ND 350, TENAFLY, N. J.

Mention Item NED-1564 when writing

KIRK AND BLUM Twin Ovens . . . SPEED PRODUCTION



DESIGNED AND BUILT BY KIRK & BLUM FOR THE GLOBE-WERNICKE CO.



•At this noted firm, Kirk & Blum 64-foot twin ovens speed the finish of metal office equipment. Primer and finish coats on metal sub-assemblies are baked to exact requirements. This unusual installation "ups" production, improves finish, saves labor, fuel and floor space.

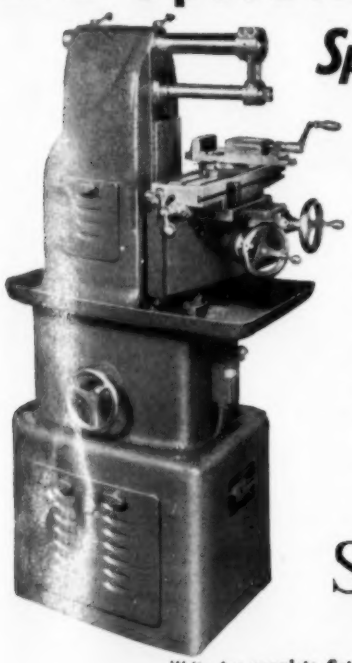
Kirk & Blum builds industrial ovens for a multitude of uses. All incorporate controls to meet production and safety requirements. Write today for catalog, "Industrial Ovens."

KIRK AND BLUM
INDUSTRIAL OVENS

THE KIRK & BLUM MFG. CO.
2813 Spring Grove Ave.,
Cincinnati 25, Ohio

Mention Item NED-1565 when writing

Convenience, Speed and Low Operating Cost, *Spell Profit*



Any job you can do on the SHELDON Size "O" Milling Machine is a high profit job because this small, fast machine costs so little to own and operate. And, much of the milling work in most shops is well within the capacity of this easy handling money maker.

Keep your big milling machines for big work, but be sure to have one or more of these smaller faster tools for extra profit on your ordinary tool room jobs.

SHELDON
Milling Machine

Write for complete Catalog which includes specifications and attachments.

4215 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U. S. A.

SHELDON MACHINE CO. Inc.
Manufacturers of Sheldon Precision Lathes • Milling Machines • Shapers

Mention Item NED-1566 when writing

CYCLE BILLING MACHINE
18 and 24-in. carriages available

Chief feature of composite model D cycle billing machine is automatic inactive-column skip which causes skipping of purchases, payments and return columns on history ledger cards whenever there are no postings in comparable columns of statement. Handling of posting media is facilitated by table immediately adjacent to ten-key keyboard. This table fits over date section of keyboard and is hinged to swing back so dates can be changed and production counters read. Other features include dial indicator on adjustable ledger stop with months imprinted, snap-on carriage engaging and disengaging blocks, light touch nontab and express tab keys, and large front feed lateral guide. Made by **Underwood Corp.**, Dept. NED, 1 Park Ave., New York 16, N. Y.

Mention Item NED-1567 when writing

POWER BENDING MACHINE
can be changed quickly to handle various sizes, shapes and bends

Simple, compound and reverse bends can be formed with Di-Acro Hydra-Power bender in tubing, angles, channels, extrusions, moldings, strip stock, bus bars, round or square rods and all other solid ductile materials. Smooth even flow of power is assured by Vickers hydraulic system. Correct bending speed for all types of material is afforded by variable flow control valve which permits infinite speed adjustment. Engagement of control lever starts bending cycle leaving operator's hands free until bend is completed and bending motion is automatically stopped. Regardless of speed used in bending cycle, machine returns to loading position at high speed.

Automatic angle control allows series of bends of varying degrees to be made progressively in single part without removing piece from machine. Large quantities of identical parts can be produced through use of multiple length gage. Although normal forming method is drawing material around rotating bending form, machine will also perform compression bending by wrapping material around stationary form. Bending motion can be operated in either direction. Made by **O'Neil-Irwin Mfg. Co.**, 320 Eighth Ave., Lake City, Min.

Mention Item NED-1568 when writing

Mention Item NED-1569 when writing

WEBB
OVERHEAD CONVEYOR
TROLLEYS

SUPERIORITY DEMONSTRATED IN THOUSANDS OF INSTALLATIONS

Retainer type ball bearing wheels with hardened treads and hardened and ground bearing races . . . labyrinth grease seals . . . brackets drop-forged of high carbon steel with ribbed section to provide maximum strength in direction of stress . . .

. . . Webb Overhead Conveyor Trolleys have marked superiority demonstrated in thousands of installations. Available in bolted, riveted, or as illustrated in swaged bracket types, Webb Trolleys are made in standard sizes interchangeable with other trolleys of comparable capacity. For 2"—3"—4" and 6" chain pitch.

JERVIS B. WEBB COMPANY
8951 ALPINE AVE.
DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

Mention Item NED-1570 when writing

SYNTRON
Vertical — Vibratory

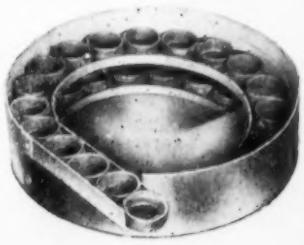
SMALL PARTS FEEDERS

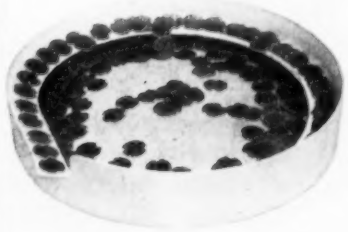
SAVE TIME—SPEED UP WORK

By Providing Automatic, Oriented Position, Single Line Feeding of—

various types of small parts — washers, shims, lamp bulbs and bases, buttons, etc. — to inspection and counting devices, packaging machines and other automatic processing equipment.

3600 vibrations per minute move the parts up and around the spiral track. "Selectors" orient the parts for discharge —face up or down, on left or right side, etc., as required.





Send us a description of your problem — and sample parts for testing.

We'll be glad to submit recommendations and quote prices.

Write to—

SYNTRON CO.
405 Lexington Homer City, Pa.

Mention Item NED-1571 when writing

▲ Mention Item NED-1572 when writing ▲

Here's a real **PARTS BOX** buy!

THE NEW Bruco BOX

1. Corrugated Steel for Maximum Strength and Rigidity.
2. Three Piece Construction — Securely Arc Welded.
3. 14 Gauge Corrugated Steel Body.
4. 9 Gauge Corrugated Steel Reinforced Skid.
5. 7½" Standard Underclearance 26" Wide; 36" Long; 26" Deep.
6. Capacity 14 Cu. Ft. — 3000 Lbs.
7. Tiering Plates And/Or Crane Lugs at Slight Additional Cost.

$26.50 EACH
Ask for No. 524. Delivery within 30 days. Prices for special boxes upon application.

Bruco HANDLING EQUIPMENT
BRUMMELER STEEL PRODUCTS CORPORATION
1411 Ionia Ave. S. W., Grand Rapids, Michigan

▲ Mention Item NED-1573 when writing ▲

HOMER PERMANENT non-electric MAGNETIC SWEEPERS SAVE TIRES and REPAIRS

For use in Factories, Canneries, Garages; Roads, Airports, Wharfs, etc.

Send for bulletin MT103

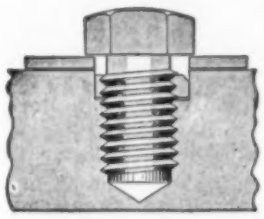
Great savings of tires and "down time" on rolling stock are reported by users of HOMER MAGNETIC SWEEPERS. Idle equipment runs up expense—runs down profit. Keep your loading areas and roads free from nails and steel trash.

Homer The HOMER MANUFACTURING CO., Inc.
Dept. I-25 LIMA, OHIO
Producers of Magnetic Separator Equipment Since 1923

▲ Mention Item NED-1574 when writing ▲

STUD LOCK
elliptical retainer provides lock

When stud or bolt enters Studloc, it forces this elliptical spring steel retainer into round to create rigid locking pressure on stud threads. Stud remains in position regardless of severity of vibration. Stress load is carried by threads of tapped hole, and retainer floats in counterbore so that it bears no load. Retainer can be adjusted to any position and used repeatedly without distortion. It is suitable for locking tapped adjustment screws, cylinder head studs, housing covers and flange studs and is available for bolt sizes from ⅜ to 2 in. Installation of locking ring is accomplished by simple drilling and counterboring. Made by **Security Locknut Corp.**, 1821 N. Long Ave., Chicago 39, Ill.



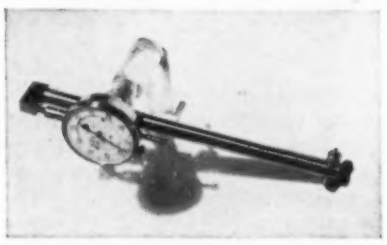
▲ Mention Item NED-1575 when writing ▲

QUICK-DISCONNECT COUPLING
6-in. pipe size for heavy-duty use

Measuring 7 in. between flanges, series 1700 heavy-duty quick-disconnect coupling is rated at 150 psi. Coupling is made or broken with 40-degree turn, and locking is effected with ⅝-in. stainless steel balls. Mating parts are tapered for nonjamming connection, and sealing surfaces are well protected against damage. Coupling is provided with standard 6-in. commercial pipe flange. Mating nipple is available with either flanged or threaded end. Convenient ring handles for winch use as well as provision for safety chain attachment are provided also. Made by **Roylyn, Inc.**, 718 W. Wilson Ave., Glendale 3, Calif.

▲ Mention Item NED-1576 when writing ▲

DIAL BORE GAGE
measures diameters from ½ to 6 in.



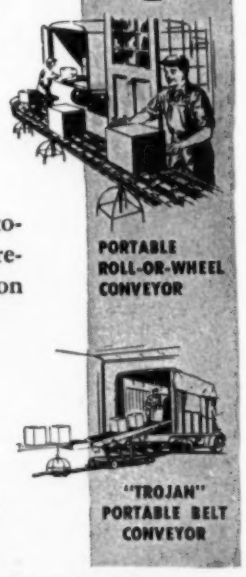
Capable of measuring diameters of internal grooves for O-rings, snap rings and oil rings as well as diameters of straight bores, this dial bore gage can be obtained as series S giving direct readings in 0.001-in. increments over entire range of instrument and T series giving plus or minus indications in 0.0001-in. increments for any dimension to which gage is set. Standard tip sizes are 1/16 and ⅛ in. OD on specific model; but where these are too large, special tips can be obtained for measuring snap ring grooves as small as 0.030-in. wide. Made by **Rimat Machine Tool Co.**, 1119 Air Way, Glendale 1, Calif.

▲ Mention Item NED-1577 when writing ▲

..HIGH? ..AVERAGE? ..LOW?

What are your material-handling costs?

• Unless you know exactly what your material handling costs are, chances are . . . they're too high. Invariably, in plants large and small, these costs tend to be neglected in favor of cost figures easier to watch and compute. Survey material-handling costs in your plant today, and call your Buschman Representative for expert, no-obligation advice.



Buschman Conveyors
THE E. W. BUSCHMAN CO., INC.
Spring Grove at Winton Pl.
Cincinnati 32, Ohio

▲ Mention Item NED-1578 when writing ▲

IT'S EASY TO *See* HOW YOU SAVE MONEY! *with*

SEALMASTER BALL BEARING UNITS

● Ask a SealMaster bearing engineer to call and actually show you the combination of features offered exclusively by SealMaster. The cut-away pillow block he carries is a complete demonstration of SealMaster's major advantages.

★ ***Permanently Sealed*** . . . to exclude dirt and retain grease.
★ ***Self-Aligning*** in any direction without seal distortion.
★ ***Pre-Lubricated*** at the factory—ready for use on installation.

Write for Catalog 845 which gives dimensions and load ratings on the complete SealMaster line.

★ SealMaster ball bearings are available in Pillow Blocks, Flange Units, Hanger Units, Cartridge Units, Flange-Cartridge Units and Take-Up Units.

BEARING DIVISION
STEPHEN S-A ADAMSON Mfg. Co.
12 Ridgeway Ave., Aurora, Ill. Los Angeles, Calif. • Bellville, Ont.

Factory Representatives and Dealers in All Principal Cities

▲ Mention Item NED-1579 when writing ▲

A TOOL BOX AT YOUR FINGERTIPS

49-16

SET NO. 1 FOR SMALL SHOPS

Continental Interchangeable Counterbore sets give you a wide variety of cutting tools in a compact, convenient form. Three sets are available, for the large or small toolroom. Each set features the famous Continental indestructible drive that will not stick, will not break, and is always hand detachable. Full details are given in Bulletin D27161. Send for your copy.

CONTINENTAL TOOL WORKS
Division of Ex-Cell-O Corporation
Detroit 32, Michigan
CTW

▲ Mention Item NED-1580 when writing ▲

Aeroquip
FLEXIBLE HOSE LINES and DETACHABLE FITTINGS

Cut Costs 9 Ways

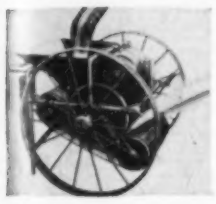
1. Reduce inventory.
2. Reduce expensive downtime.
3. Permit you to salvage old hose lines.
4. Make possible immediate repair of hose line failures.
5. Eliminate the need for factory assembled hose lines.
6. Permit you to make hose lines to desired length as required.
7. Permit you to replace rigid tubing failures on the spot.
8. Eliminate the need for rigid tubing forms and jigs.
9. Permit you to make hose lines for mock-up installations rapidly.

AEROQUIP CORPORATION
JACKSON, MICHIGAN
SALES OFFICES AND WAREHOUSES:
1053 North Hollywood Way, Burbank, Calif. 1215 South East Grand Ave., Portland 14, Ore.
2912 N. E. 28th St., Fort Worth 11, Texas 72-74 Stafford Street, Toronto, Canada
SALES OFFICES:
303 Wareham Bldg., Hagerstown, Md. 1419 2nd Ave. So., Minneapolis 4, Minn.
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U. S. A. AND ABROAD

▲ Mention Item NED-1581 when writing ▲

LOAD MORE *in less time!*

with an S-A BOX CAR LOADER



Get the facts... Ask for a copy of Bulletin No. 240

With an S-A portable Box Car Loader, one man can fill and trim box cars in a fraction of the time required for other methods of loading. Once in position, this fast-working unit operates unattended. This means real savings in time and labor. The standard S-A loader handles loose, granular material up to 2-inch lump size, *throwing it as far as 30 feet.*

STEPHEN S-ADAMSON MFG. CO.

Tellevel-Bin Level Controls · Car Loaders · Car Pullers · Saco Speed Reducers · Winches · SealMaster Ball Bearings

12 RIDGEWAY AVE., AURORA, ILLINOIS

▲ Mention Item NED-1582 when writing ▲

CUT ANY SHAPE WITH A BEVERLY IN METAL UP TO 3/16" MILD

With one Beverly Throatless Shear, you're equipped to make any cut in metal—straight, curved or irregular—faster, easier and more economically. Positive rake of the high grade tool steel blades produces neat, clean, burr-free cuts in any metal up to capacity. Made in 4 sizes to handle 18 ga. to 3/16" mild.

FEATURES:

- Compound leverage—easiest cutting in heaviest metals.
- Alloy steel rack and pinion for positive cutting control at all times.
- Exclusive shoulder design permits turning work at any point of the stroke.
- Interchangeable blades adjustable for wear and re-sharpening.
- Alloy steel body—eliminates distortion and misalignment of blades.
- High carbon, high chrome blades available for all models to handle stainless steel.

Diagram at right illustrates cuts made with a Beverly in light gauge metal.

BEVERLY SHEAR MFG. CO.

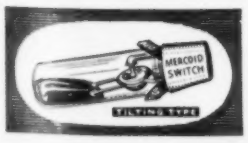
3016 WEST 111th STREET CHICAGO 43, ILLINOIS

▲ Mention Item NED-1583 when writing ▲

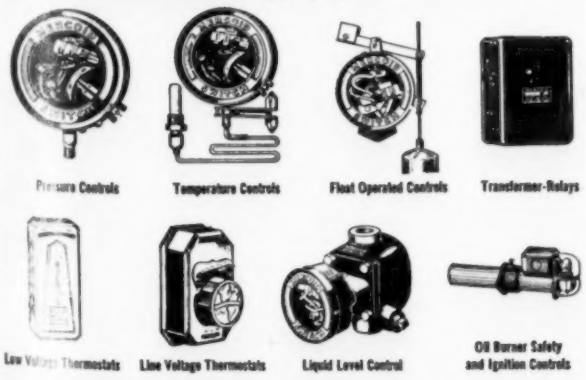
MERCOID

AUTOMATIC CONTROLS FOR HEATING, AIR CONDITIONING, REFRIGERATION AND VARIOUS INDUSTRIAL APPLICATIONS

THE ONLY 100% MERCURY SWITCH EQUIPPED CONTROLS



The distinguishing feature of Mercoid Controls is the exclusive use of Mercoid hermetically sealed mercury switches. These switches are not subject to dust, dirt or corrosion, thereby assuring better performance and longer control life. The items shown below are but a few miscellaneous items. See Catalog No. 700 for the complete line.



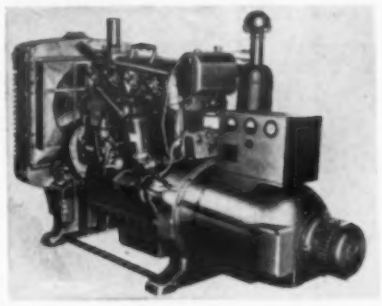
If you have a problem involving the automatic control of pressure, temperature, liquid level, mechanical operations, etc., it will pay you to consult Mercoid's engineering staff — always at your service.

Manufacturers of Dependable Automatic Controls for Over A Quarter of A Century

THE MERCOID CORPORATION · 4223 BELMONT AVE. CHICAGO 41 · ILL.

▲ Mention Item NED-1584 when writing ▲

DIESEL-ELECTRIC PLANT supplied in ratings of 12½ to 55 kw



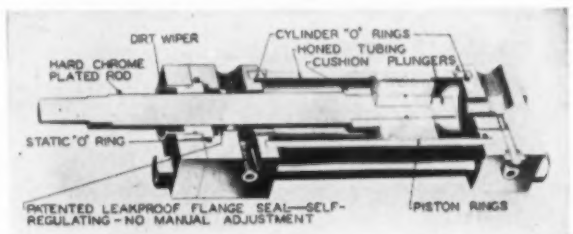
Incorporating automatic voltage regulators, five models of diesel-driven electric generating plants can be supplied in all standard voltages, frequencies and phases. Starting is by means of 12-volt system, and less than 1 minute of all-weather gasoline warm-up is required before change-over to full diesel operation.

Voltage-regulated type generators are perfectly aligned, operate under all climatic conditions and can be paralleled if desired. Plants include necessary engine and generator controls, running time meter, exhaust muffler, battery cables and terminal box. Optional equipment includes voltmeter, ammeter, circuit breaker, paralleling equipment, high water temperature and low oil pressure alarm or cut-off, steel skid base, battery rack, batteries, exhaust snubber, fuel tanks, fuel lines and fittings. Made by **D. W. Onan & Sons Inc.,** 808 Royalston Ave. N., Minneapolis 5, Minn.

▲ Mention Item NED-1585 when writing ▲

HYDRAULIC CYLINDERS suitable for high pressure use

Available in complete line from 1½ to 12-in. bores for 2000 to 3500-psi operation, hydraulic cylinders meet recently approved JIC hydraulic standards. They have solid



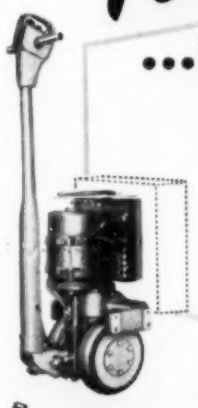
steel heads, caps and mountings. Required leakproof pressure sealing at cylinder ends is provided by O-rings. Leather rod seal assembly permits friction-free leakproof operation of reciprocating rod. Cylinder tubing is bored to 15-microinch polished finish, dirt wiper seals adequately clean rods, and hard chrome plating prevents scoring of piston rod. Automatic step-cut piston ring piston assemblies are interchangeable with standard leather piston cup seal assembly. Also available are cushioning at one or both ends and air bleeds to prevent air entrapment. Made by **Miller Motor Co.,** 4031 N. Kedzie Ave., Chicago 18, Ill.

▲ Mention Item NED-1586 when writing ▲

DO YOU KNOW? Phillips screwdrivers and bits that have become worn or broken in service can be renewed. Original hardness, design and tolerances are retained, though length is reduced slightly. Service offered by **Zephyr Mfg. Co.,** 203 Hindry Ave., Inglewood, Calif.

▲ Mention Item NED-1587 when writing ▲

Hitch this efficient "Power Package" ...to practically any load!



Motorize your movable equipment with this trouble - free Stuebing - Engineered Prime-mover!

For castered or other movable equipment investigate the Stuebing "Power Package". The complete power unit from the Hydro*Lectric* "K" Lift Truck, the "Power Package" includes twin wheel drive, heavy duty motor, two speeds forward, two in reverse and dynamic brake. It's like an outboard motor . . . adaptable to many moving jobs. Capacity rated at 200-500 pound draw bar pull.

Performance proved in the HydroLectric 'K' Lift Truck for more than 10 years.

Let Stuebing engineers show you how the "Power Package" fits your moving problems.

For specifications write for Bulletin G.

LIFT TRUCKS, INC.

Walter Stuebing, *President*

2425 Spring Grove Ave. Cincinnati 14, Ohio

▲ Mention Item NED-1588 when writing ▲

To select the proper drive for any type of service

GET your copies of the latest Cleveland catalogs for full information on all types and sizes of worm gear speed reducers —including rating tables, dimensional diagrams and data for both standard and fan-cooled units. Ask for Catalog 200 for standard drives and Catalog 300 for Speed-aire (fan-cooled). The Cleveland Worm & Gear Co., 3283 E. 80th St., Cleveland 4, O.

For personalized service: Write or phone John E. Millikan Cleveland exch. VUlcan 3-4560

CLEVELAND Worm Gear *Speed Reducers*

▲ Mention Item NED-1589 when writing ▲

There's nothing to compare with it!

CM CYCLONE®

LIGHT WEIGHT—HEAVY DUTY *High Speed* CHAIN HOIST

63% Less Weight: Of Alcoa Aluminum Alloy, the 1 ton capacity weighs only 35 lbs. Carry it anywhere with ease. Designed to stand the "gaff" of maintenance work. ***42% Fewer Parts:*** Long service life. ***96% Efficient:*** Lifts loads rapidly with easier pull on the chain. ***Herc-Alloy Flexible Load Chain:*** America's first welded alloy steel chain. ***Sealed-in Lifetime Lubrication:*** No attention required. ***Low Cost:*** No more than heavy old style chain hoists. Capacities: ¼ to 10 tons.

Write for BULLETIN 145A or phone your local CM Distributor for a demonstration.

CHISHOLM-MOORE HOIST CORPORATION

(Affiliated with Columbus McKinnon Chain Corporation)

GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.

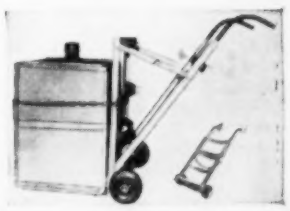
SALES OFFICES: New York, Chicago and Cleveland • Distributors Everywhere

▲ Mention Item NED-1590 when writing ▲

FOR SAFE HANDLING *of corrosive liquids*

SAFE, FAST ACID PUMP—For carboys, drums and barrels. A smooth flow starts quickly . . . no dangerous spurts or splashes. Lifting and tilting eliminated. No dangerous pressure build-up, flow can be stopped instantly.

ALL-PURPOSE HAND TRUCK —Carboys, drums, barrels transported vertically when used in "open" position. In closed position loads are handled in conventional manner. Scientifically balanced for maximum leverage and ease of handling.



A DEPENDABLE GUIDE TO SAFETY

SEND FOR COMPLETE DATA AND PRICES

GENERAL SCIENTIFIC EQUIPMENT CO.

2701 W. Huntingdon St., Philadelphia 32, Pa.

COMPLETE 1950 SAFETY CATALOG SENT ON REQUEST

▲ Mention Item NED-1591 when writing ▲

THE FLOOR REPAIRMAN IS A STRANGER

...when you install KLEMP HEXTEEL®

Years of abuse by ponderous rolling wheels, tractors with lugs, heaviest trucks, crushing impacts leave super-tough Hexteel still solid, smooth, crackless and SAFE. That's why it practically puts your maintenance man on a vacation!

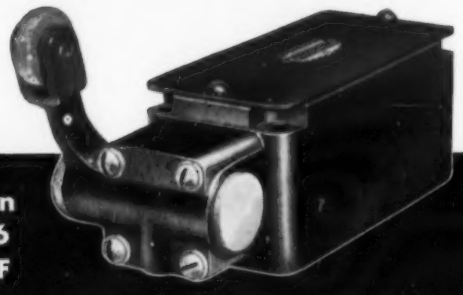
Klemp Hexsteel is heavy-duty steel grid, designed to be imbedded in concrete or mastic, on new or old floors—either wood or concrete. Get the facts on the floor that lets you forget maintenance—write for our Hexteel Book now!

KLEMP SURE FOOTED AS A CAT HEXTEEL Heavy Duty Surface Armor

WM. F. KLEMP COMPANY
"Steel Flooring Specialists"
6618 S. Melvina Ave. Chicago 38, Illinois

▲ Mention Item NED-1592 when writing ▲

Dependable Control



Bulletin 10316 Type F

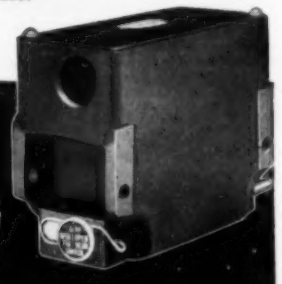
SNAP ACTION LIMIT SWITCH

THE C-H 10316 Limit Switch, Type F, is available with roller lever, push roller or push rod operating heads, all of which are interchangeable. The roller lever type is available to either trip in both directions or trip in one direction and by-pass in the other direction.

Operating head mounts in any quadrant. Roller lever sets positively in 90 different operating positions (4° apart). Thus any machine mounting or field requirement is easily met.

Switch has two circuits; normally open and normally closed. Contacts adjust for different degrees of overlap, or no overlap. Switch can initiate automatic cycles, reverse motor or stop overtravel.

Sturdy construction has large bearings and hardened surfaces on all wearing parts. Twin break silver to silver contacts, quick make and break, unvarying tripping points. Maximum ease of wiring, adjustment and accessibility. Standard dustproof, dusttight, watertight or oiltight enclosing case.



Bulletin 10316 Type J

ROTATING SHAFT LIMIT SWITCH

C-H 10316 Type J Rotating Shaft Limit Switch is a simple, handy and versatile device ideal for limiting travel IN TWO DIRECTIONS on reciprocating action equipment such as machine tools, motorized doors, small hoists, baling presses, etc. Easily driven by any suitable shaft. Accurately controls travel on the number of revolutions made by the shaft.

To adjust travel limits, you don't relocate the device. You don't locate limiting cams, dogs, etc. You simply change the setting by means of a knob outside the cover. This rotating shaft limit switch mounts on left or right side or bottom.

Speed runs from 10 r.p.m. to 600 r.p.m. Accuracy within 1/20th of a shaft turn. Adjustable between ½ and 100 turns within 1/20th of a turn. Quick reset—⅛ turn of shaft in reverse direction.

Available in 2 circuits, and in 4 circuits to handle additional control elements.

2 circuit switch has 2 normally closed contacts easily changed to normally open contacts. 4 circuit switch has 4 normally open or 4 normally closed contacts easily changed to *all* normally open, *all* normally closed, or 2 normally open *and* 2 normally closed. 2 circuit switch is standard in NEMA 1 dustproof, NEMA 4 watertight or NEMA 5 dusttight construction. 4 circuit switch in NEMA 4 or NEMA 5 construction. CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER MOTOR CONTROL C-H

▲ Mention Item NED-1593 when writing ▲

UNIVERSAL TIMER
available in four time ranges and can be set to 3600 time intervals

Covering variety of time ranges and settings, GraLab line of automatic switching interval timers is suitable for use in laboratory tests, process engineering, inspection tests, instrument calibration and other operations. Double-range characteristic permits setting any one model throughout range of 3600 distinct time intervals. Illustrated model 171 can be set to control and signal any time interval from 1 second to 1 hour. Model 170 times from 1 minute to 60 hours; No. 172, from ¼-second to 15 minutes; and No. 173, from 15 seconds to 15 hours.

Large 8-in. diameter black-on-aluminum dials permit easy setting and reading of instruments, and inner circle of numerals permits use as elapsed-time indicators. Timers are equipped with selective automatic buzzer alarm which signals expiration of preselected time interval if desired. Two outlet receptacles are standard: one controlled by selector switch will make or break circuit at zero; the other, independent of selector switch, breaks circuit at zero. Timers are equipped with integral snap-action switch rated 6 amp at 125 v. Made by **Dimco-Gray Corp.**, Dimco Bldg., 206 E. Sixth St., Dayton 2, O.

▲ Mention Item NED-1594 when writing ▲

DRILLING MACHINE
medium weight type has 25-in. swing

This model E-25 drilling machine utilizes variable speed drive that permits exact spindle speed to be obtained for any size drill from ⅛ to 1 in. Five options of spindle speeds, each with 4:1 ratio, are available ranging from low of 206 to 825 rpm to high of 540 to 2160 rpm. Unit is powered by 1½-hp three-phase 60-cycle axial air gap type motor. Rated capacity of machine is ¾-in. hole in steel and 1-in. hole in cast iron. Tachometer on front of machine provides accurate reading of speeds, and speed chart on side of unit shows proper speeds for different drill sizes. Features include table measuring 18 x 26 in., full-floating ball bearing spindle with maximum travel of 8 in., 4½-in. diameter solid column and table accuracy maintained to 0.0007-in. in 6-in. radius. Made by **Sibley Machine & Foundry Corp.**, 20 E. Tutt St., South Bend 23, Ind.

▲ Mention Item NED-1595 when writing ▲

SABIN One Man BARREL TRUCK

SAVES 1 to 2 HELPERS

Why use a truck that requires two or three men to load with 800 pound barrels or drums when ONE MAN can do the job easily and at less cost with a Sabin Truck? He runs truck up to container, hooks on at top, then pulls back on handle—that's all. Exclusive Third Wheel feature adds to ease and safety in moving loads. *WRITE FOR BULLETIN NO. 48-A.*

SABIN One Man COIL TRUCK

SAVES TIME in handling wire coils, strip coils, wheels, tires or anything with a hole through it. You simply run truck up to article, passing adjustable arm through hole, then pull back on handle to pick up load. This truck also has the Exclusive Third Wheel Feature. *WRITE FOR BULLETIN.*

The Sabin Machine Co.
6536 Carnegie Avenue
Cleveland 3, Ohio

▲ Mention Item NED-1596 when writing ▲

★ This is a simple formula, easily applied. Wellman's *40 years' experience* are yours for the asking. *Quality Castings* in magnesium, aluminum or bronze produced to your exact specifications. Our *three plants* are completely equipped for production from blueprint to finished casting. *Well-Cast lightweight* castings are being produced every day for the aircraft, automotive, rubber goods, portable tool, textile, and other industries. What are your requirements? Catalog No. 50 on request.

* Aluminum and magnesium + Wellman's 40 years' experience equals quality castings.

"WELL-MADE" WOOD AND METAL PATTERNS

THE WELLMAN BRONZE & ALUMINUM CO.
2516 EAST 93rd STREET ★ CLEVELAND 4, OHIO

▲ Mention Item NED-1597 when writing ▲

HAVE YOU EVER BOUGHT YOUR WIFE A MINK COAT AT RABBIT PRICES?

SAVE UP TO 85% IN WAR SURPLUS

We've gone NUTS!!

Just Purchased 180,000 lbs. of the FINEST PRECISION Made ELASTIC & FIBER LOCK NUTS!! All are NEW!!

Here's your chance to "STEAL" Aircraft Quality STOP NUTS at less than the cost of common commercial hex nuts. They're ALL NEW Cad plated Steel and a large quantity are even pre-tapped for easier wrenching. ELASTIC or FIBER LOCK SEAL gives a Positive, Shake-proof, Vibration & Rust Resistant fastener. No lock washer necessary. One Operation does the job. Just run on the nut. Ideal for use in all types of metal fabrication, assembly, construction etc.,

ALL NEW! AND LOOK AT THESE PRICES for ELASTIC or FIBRE LOCK STOP NUTS

	1,000	10,000	25,000	50,000	100,000	500,000
640	$.25	$.21	$.19	$.17	$.15	$.13
802, 806, 1032	.31	.28	.25	.23	.21	.19
1/4-28	.39	.36	.33	.30	.27	.25
5/16-24	.64	.61	.58	.56	.54	.49
3/8-24	.74	.71	.68	.66	.64	.59

Prices shown are per 100 in these quantities. Special discounts on larger quantities.

AIR TOOLS
10,000 in various makes, sizes & types. Cleco, Aro, Ingersoll Rand, Chicago Pneumatic, Buckeye

ARO PISTOL 17.95 AIR DRILL or AIR MOTOR with 1/4" Jacobs chuck.

$55.00 VALUE Pistol or Gooseneck NO.181 PISTOL Only $8.95

NEW BEARINGS
These are the Finest, Precision, AIRCRAFT BEARINGS!! We have more than 168 types and sizes in TREMENDOUS QUANTITIES!!! Needle, Roller, Recessed, Rod End, Shielded, Unshielded, Self-aligning, etc. Made by some of the WORLD'S LEADING MANUFACTURERS OF BEARINGS... Yours at a FRACTION of COMMERCIAL PRICES. Write for complete list.

PALLEY SPECIALS on HYDRAULIC PUMPS & CYLINDERS

P-1 PESCO PUMP - Positive displacement gear type. Capacity: 1 gal. per minute, at 1500 RPM at 1500 PSI. Operating speed: 3700 RPM intermittent max. 4500 RPM. Rotation: either direction with slight adjustments. $9.49

NEW HYDRAULIC CYLINDER NEW 22.50
Gives 20,000 lb. thrust (push or pull) using 1500 PSI line pressure as obtained from our hyd. pumps. Will produce up to 40,000 lb. thrust with 3,000 PSI. CAN ALSO BE OPERATED ON LOW PRESSURE AIR SYSTEMS. 4" bore, 18" stroke, 30½" length. Ideal for Road-Farm-Shop Machinery.

BENDIX HAND PUMP
Provides instantaneous power to operate Hydraulic Systems. Delivers 3000 to 5000 PSI. Has built-in reservoir and Pressure Relief Valve. Can be adapted to 100's of uses in simple hydraulic systems. NEW $15.95 Used - Good Condition 11.95

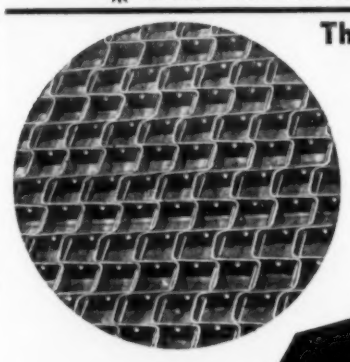
P-4 VICKERS ANGLE PUMP
Positive displacement type, angle piston. Displaces .507 cu. in. per revolution. Has capacity of 6 gal. per min. at 3000 RPM at 1500 PSI. Pressure limit is 1500 PSI continuous, 1875 for 15 sec. Operating speed of 3750 RPM, intermittent maximum 4500 RPM. Rotates to the right only. $14.49

NEW HYDRAULIC CYLINDERS 87 TYPES & SIZES in the WORLD'S LARGEST SUPPLY. Send for Catalog.

PALLEY SUPPLY CO. DEPT. NED-3 6321 SAN FERNANDO RD. GLENDALE 1, CALIF.

NEW 1950 CATALOG 72 pages of Machine Tools (taps, drills, dies reamers, etc.) Hydraulic Cylinders & Valves, Air Tools, Bearings. Write Today for your Copy.

▲ Mention Item NED-1598 when writing ▲



The repairman is a stranger . . .

WHEN YOU INSTALL

KLEMP FLOOR-STEEL

Easy-to-lay Klemp Floorsteel, imbedded in concrete over the floor base, gives you a permanently smooth, quiet, non-skid surface—even under constant punishment by steel truck wheels, shocks and impacts. Cracks, holes and ruts cannot develop. That's why it stays SAFE, needs no maintenance! Loads roll smoothly over Klemp Floorsteel—and the load always rests on the steel mesh—*not* on the concrete. See how you can do away with floor repairs . . . get our illustrated Floorsteel Bulletin *today!*

KLEMP SURE FOOTED AS A CAT FLOORSTEEL THE FLEXIBLE FLOOR ARMOR THAT ROLLS OUT LIKE A RUG

WM. F. KLEMP COMPANY
"Steel Flooring Specialists"
6618 S. Melvina Ave. Chicago 38, Illinois

▲ Mention Item NED-1599 when writing ▲

Save fingers! Littell

AIR-BLAST VALVES

—they'll do the job! They automatically eject pieces up to 2 lbs., depending on width of nozzle used and air pressure. They keep hands out of danger zone, as pieces can be fed into press with Littell Vacuum or Mechanical Pickers. Air operates only 1/10th the complete cycle of press—saving air.

Cam is adjustable and fastens to end of crankshaft—timed so that pieces are ejected as freed. Air nozzle is adjustable to any height or position. Littell makes a complete line of press-room equipment, such as Reels, Roll and Dial Feeds, Straighteners, etc.

REQUEST BULLETIN

F. J. LITTELL MACHINE CO.
4169 Ravenswood Ave., CHICAGO 13, ILL.

Mention Item NED-1600 when writing

EMERGENCY MANPOWER

"CANTON" Portable Floor Crane. Lifts — transports — spots loads up to 3 tons. One man operation. Emergency manpower for any corner of the shop. Made in varying heights and lifting capacities. Light weight welded tubular steel construction. Safe—Inexpensive—Adaptable.

The HILL ACME Company "CANTON" DIVISION 6404 Breakwater Ave. CLEVELAND 2, OHIO

FOR FULL DATA, WRITE TODAY FOR BULLETIN 49.

Mention Item NED-1601 when writing

Let DIXIE know-how and experience lick your new product problems

That's right . . . Dixie Manufacturing's designers and engineers, their production know-how and 40 years of experience in sheet metal fabrication are available to help you in developing or producing any item, in any sheet metal. We are recognized as specialists in fabricating Stainless Steel. Consult a Dixie engineer on any problem involving sheet metal. There is no obligation.

Booklet No. 47-A "STAINLESS STEEL PRODUCTS" is full of ideas for manufacturers. It's free . . . Write for it today.

FREE BOOK

DIXIE MANUFACTURING CO., INC.
1334 RUSSELL ST. - BALTIMORE 30, MD.
Makers of DIXIE Engineered Dust Control

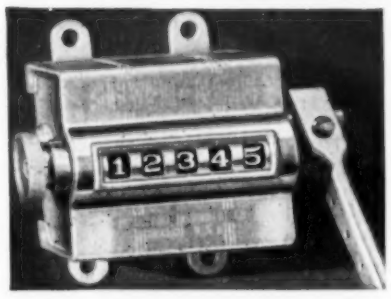
Mention Item NED-1602 when writing

AUTOMATIC STEAM GENERATOR
500-hp unit fired with oil or gas

Available for operation at pressures from 15 to 200 psi, this automatic Amesteam steam generator is furnished complete ready for installation on boiler room floor. When connected to steam, water, fuel and electric lines and to breeching or stack, it is ready for operation. In areas where both oil and gas are available, oil-gas combination units can be used to take advantage of varying seasonal fuel costs. Made by **Ames Iron Works**, P. O. Box 2105, Oswego, N. Y.

Mention Item NED-1603 when writing

STROKE COUNTERS
mechanical unit is tamperproof



Any tampering with reset knob of Silver King stroke counter is easily detected. Built-in device prevents reverse operation of reset mechanism. Counter is also available in key-reset and non-reset models. Unit incorporates steel base and cover with chromium finish, lightweight plastic number wheels for minimum inertia and unbreakable windows of reinforced plastic. Device is suitable for counting strokes of punch presses, milling machines, drill presses and other equipment. Made by **Production Instrument Co.**, 700-12 W. Jackson Blvd., Chicago 6, Ill.

Mention Item NED-1604 when writing

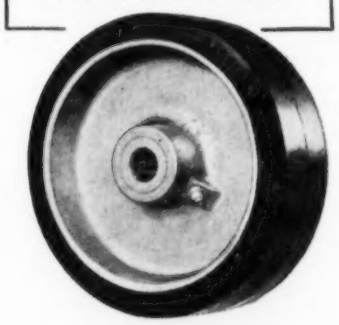
PENDANT SWITCH
used for precise hand switch timing

Underwriters' Laboratories listed for 10-amp 125/250-v a-c, this pendant switch can be obtained as No. 1AH2 normally-open and No. 1AH3 normally-closed types. High electrical rating combined with high inrush capacity makes it suitable for controlling 1000-w tungsten filament lamp loads on a-c circuits. Plastic case is precision molded in two halves held firmly together with two recessed screws that pass through mounting holes of enclosed basic switch, and ample space is provided for connecting No. 16-2 conductor type SJ cord to enclosed switch. Housing measures 4-1/16 x ⅞ x 1-11/16 in. Made by **First Industrial Corp.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

Mention Item NED-1605 when writing

NOW! Weight of wheels cut 50% with no cut in strength!

6, 8, 10, and 12 in. Sizes



New Bassick "Alcore" industrial wheels cost less, too!

Power-saving rubber tread on high-strength aluminum alloy core. 6, 8, 10 and 12 in. sizes. Write for price-and-specification sheet to the world's largest manufacturer of casters—THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corp. In Canada: Bassick Division, Stewart-Warner-Alemite Corp., Ltd., Belleville, Ont.

Bassick MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

Mention Item NED-1606 when writing

CUT WASHROOM UPKEEP
With these exclusive Sperzel features

• OPEN FRONT AND BACK DESIGN . . cuts cleaning time to a minimum. No germ collecting crevices . . always sanitary.
• SELF-RAISING . . seat remains upright when not in use with bowl serving as urinal. Seat stays clean and dry.
• DURABLE . . . double strength plastic pads are shatter-proof, fire-proof. Assure long life [illegible] maintenance.
• SOLID PLASTIC . . . strong and durable. Plastic covered hinge is moisture proof, dirt free.

WRITE NOW for catalog for full details on model LP-20 (illus.), model LP-40 with self-sustaining hinge, and a complete line of conventional models.

DEPT. NE.

THE SPERZEL COMPANY
All Sperzel Seats fit Standard Bowls
123 14th AVENUE S. • MINNEAPOLIS, MINN.

Mention Item NED-1607 when writing

Control Costs with COUNTING SCALES

Toledo's *complete line* of Counting Scales gives you the right model for *accurate cost control* in a wide range of jobs! For issuing pre-determined quantities of uniform parts . . . counting unknown quantities . . . for *faster inventory counts* . . . or to get accurate receiving, shipping, production, cost and piece-work counts. Complete selection of models . . . for parts weighing only a few grains . . . up to total counting capacities of several tons. Also choice of double and triple ratio combinations. Send for booklet 2204. Toledo Scale Company, Toledo 12, Ohio.

TOLEDO
HEADQUARTERS FOR SCALES

Mention Item NED-1608 when writing

Looking for NEW WAYS to CUT COSTS?

IF YOU HAVE PROBLEMS on machining, forging, casting, welding, heat treating, materials handling, metal cleaning and finishing, or other production processes, you can get a lot of helpful information in the magazine STEEL.

STEEL will also give you plenty of ideas on how to save money through the proper selection and buying of steel and other materials.

In fact, STEEL gives you 3 complete services in one: (1) A reliable market guide (2) An engineering and operating paper (3) A dependable news source. But don't take our word for it. Try STEEL for the next 26 weeks at a very special introductory rate. Use the coupon today! Get your service started with the next issue!

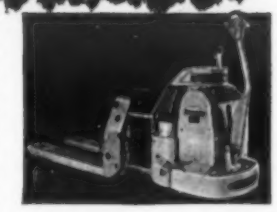
STEEL, 834 Penton Building, Cleveland 13, Ohio
Send me STEEL's regular weekly service for the next 6 months (26 weeks) at the Special Introductory Rate of only $5.00. Include a complimentary copy of the 450-page 1950 METALWORKING YEARBOOK.

Name _____ Title _____
Company Address _____
City _____ Zone _____ State _____

Mention Item NED-1609 when writing

Almost Unbelievable . . . BUT TRUE!

NOT EVEN ONE Transporter Electric Truck HAS EVER WORN OUT*



IN DESIGN, precision engineering and built-for-stamina ruggedness, Automatic Electric Transporters STAND UP for years and years. Industry tested since 1942, many do 'round the clock, 24 hour service, handling tons and tons of material by easy finger-tip control, at 50% to 75% savings. With thousands and thousands in use, it is astounding, but true, that *to our knowledge, no Transporter *has ever completely worn out!* Get money-saving facts.

Service-Proved Features Like These Tell Why!

CHASSIS—Lightweight, yet engineered and built for full capacity loads. Ruggedness combined with extra power per weight ratio.

MOTOR—Heavy duty industrial truck type, series wound DC motor with high starting torque and overload capacity. Built to Automatic's rigid specifications especially for Transporter.

DRIVE UNIT—Efficient double reduction unit. Driving wheel mounted on large diameter Timken tapered roller bearings. Drive mechanism and control unit combined into integral unit on large diameter steering turntable which revolves easily on ball bearings.

DRIVE CONTROL—Simplified contactor control system with constant torque controller mechanically interlocked with double position brake. Contactor design prevents "shorting" motor and battery.

CONSTRUCTION—Main frame of deep sectioned steel members. Sturdy one piece formed steel lift platform or heavy formed steel pallet fork frames are all-welded reinforced construction.

ELECTRICAL WIRING—No grounded circuits. Two wire system same as used on larger electric industrial trucks does not utilize Transporter frame to complete electrical circuit.

SAFETY—Transporter carries Underwriter's Laboratory Seal.

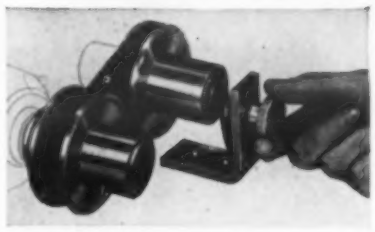
Transporter — A PRODUCT OF AUTOMATIC — Lightens Life's Loads

Trade Automatic Mark

61 W. 87th St., Dept. C-5, Chicago 20, Ill.

▲ Mention Item NED-1610 when writing ▲

COMBINATION SHEAVES provide wide speed variations



Available in 3, 4, 5, 6, 7 and 8-in. sizes, these combination sheaves can be used to produce speed variations between fixed-center shafts at ratios as high as 7:1. Standard V-belts are used to transmit load which can range from 1/15 to 7½ hp. All except 8-in. size are of single-groove design and can be obtained in two types: spring-loaded and controllable. Built with double grooves, 8-in. size for large horsepower requirements cannot be combined with smaller single-groove sizes. Spring-loaded variable pitch driving sheave is usually mounted on motor shaft; and controllable pitch sheave, of either same or different diameter, is mounted on driven shaft. Control knob and bracket assembly is secured to machine base and V-belt snapped into place to complete drive. Made by **Speed Selector Inc.**, 118-N Noble Court, Cleveland 13, O.

▲ Mention Item NED-1613 when writing ▲

DUST COLLECTOR self-cleaning action is automatic

By frequent applications of blasts of reverse air to filter, Dynaclone cloth bag dust collector prevents loss of efficiency commonly resulting from accumulation of dust on cloth bag. Created by main fan of dust control system, reverse air blasts eliminate need for auxiliary equipment or shaking mechanism. Present installations of dust filters can be changed over to embody Dynaclone feature. Made by **W. W. Sly Mfg. Co.**, 4748 Train Ave., Cleveland 2, O.

▲ Mention Item NED-1614 when writing ▲

HAND TRUCK has adjustable tripod support

While weighing only 27 lb, Tricart tubular steel hand truck will handle loads up to 600 lb. Loads are picked up almost effortlessly simply by stepping on end of leverage plate. Telescoping tripod can be adjusted instantly to any position desired, or entire third wheel assembly can be folded completely out of way to permit use of truck as two-wheeler. Unit is particularly suitable for handling cartons, crates, linoleum rolls, gas cylinders and other bulky articles. It can be furnished as three-rung model 45 in. high or having four rungs and 52 in. high. Made by **Melooz Mfg. Co.**, Dept. NED, 4730 Avalon Blvd., Los Angeles 11, Calif.

▲ Mention Item NED-1615 when writing ▲

Buckingham THREAD CLEANER

A Few Turns Restore Battered and Rusted Threads

Flats and nicks eliminated — even heavily corroded threads quickly cleaned, so that nuts turn off and on freely! Think of the time and money saved! No more drilling or hack-sawing to remove damaged bolts and studs. Just slip on your Buckingham Thread Cleaner, tighten the jaws, then turn!

Buckingham Thread Cleaners follow the pitch of any right- or left-hand thread with root diameter from ¼" to 4". No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. The jaws should be placed below the damaged area and then turned off through that section. See your nearest Buckingham dealer — or write us today for further information.

THREE SIZES	Price
6103 — ¼" to 1" root diam.	$ 6.00
6104 — 1" to 2 9/16" root diam.	11.00
6106 — 2" to 4" root diam.	25.00
6204 — 1" to 2 9/16" root diam.	19.00

BUCKINGHAM MANUFACTURING CO., INC.
65-67 Travis Street Binghamton, N. Y.

▲ Mention Item NED-1617 when writing ▲

Announcing the New Erickson FULL FLOATING HOLDER

FOR FLOATING REAMERS, TAPS, etc.

CORRECTS BOTH ANGULAR AND PARALLEL MISALIGNMENT

The new Erickson Full Floating Holder embodies a combination of principles never before utilized in any floating holder. The revolutionary adaptation of the cone and sphere principle is one of the biggest reasons why this new holder corrects *both* angular and parallel misalignment.

GET COST-REDUCING FACTS NOW!

Ask for Catalog G

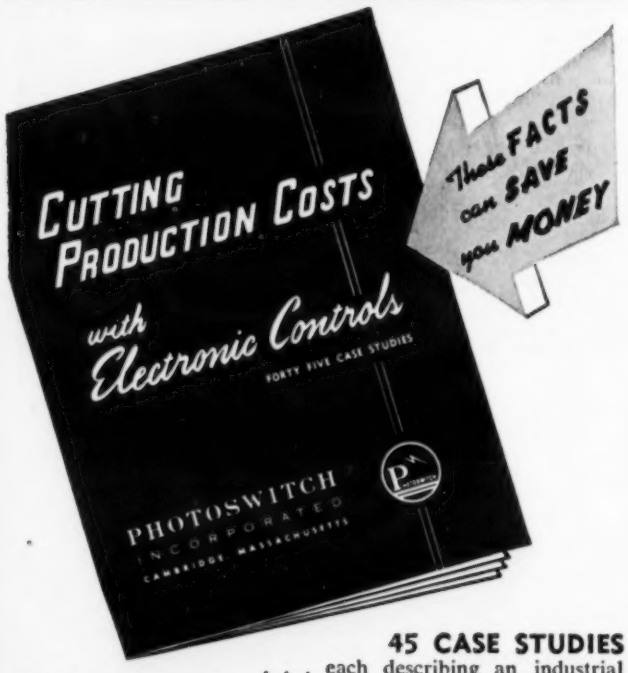
Send for free literature today. See proof of how this new holder corrects misalignment to insure increased production, reduced scrap, and lower tool costs.

See Us at Booth 240
TOOL ENGINEERS INDUSTRIAL EXPOSITION
Philadelphia, April 10-14

ERICKSON TOOLS DIVISION

2305 Hamilton Ave., Cleveland 14, Ohio

▲ Mention Item NED-1611 when writing ▲



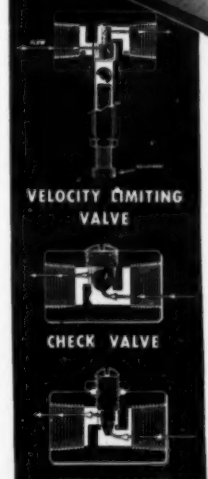
45 CASE STUDIES . . . each describing an industrial control problem which has been solved through the use of electronics. Not a catalog . . . it shows HOW photoelectric and electronic controls count, guard, sort, weigh, measure, maintain liquid levels, program operating cycles and do countless other tasks with unfailing accuracy and amazing speed.

Write for your copy today.

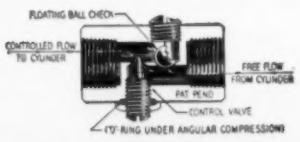
PHOTOSWITCH INCORPORATED
77 Broadway, Cambridge 42, Massachusetts

▲ Mention Item NED-1612 when writing ▲

FLOW CONTROL VALVE for Cylinder Speed ADJUSTMENTS over a WIDE RANGE IN AIR OR HYDRAULIC USE



The Pneu-Trol Flow Control Valve combines an efficient Stainless Steel FLOATING BALL CHECK which opens and closes at the slightest change in flow direction, with a Vernier Type VARIABLE NEEDLE ORIFICE adjustment in a compact control which has widened air and hydraulic cylinder application by providing precise control of cylinder action. Modifications of the Pneu-Trol Valve are available as Plain Check, check with Fixed Orifice (orifice drilled by customer in the Standard Check Valve). Needle Valve and Velocity Limiting Check, as illustrated at left. All Pneu-Trol Valves are made from bar stock in brass (up to 1000 psi) or steel (5000 psi) or other body metals in your specifications. All internal parts are Stainless. All valves available in 5 sizes—⅛", ¼", ⅜", ½" and ¾". Attractive prices—immediate delivery. Write for illustrated circular and price list.



WRITE . . .

Pneu-Trol Devices, Inc.
3122 N. California Ave. Chicago 18, Ill.

▲ Mention Item NED-1616 when writing ▲

Now! available for 110 VOLT AC

Lineator® and ROTORAC®

Electric LINEAR and ROTARY ACTUATORS

Responding to popular demand our electrically operated Lineator, Linear Actuators and Rotorac, Rotary Actuators have been modified for industrial applications to permit operation directly upon 110 volt, 60 cycle, single phase, A.C. These highly dependable products, originally developed for exacting aircraft requirements, are finding increasing acceptance for automotive and industrial installation where remote application of power is required.

Mechanically synchronized Twin Lineators or Rotoracs offer a simple solution to the difficult problem of maintaining equal motion at separated points.

POSITIONING CONTROL is available for automatic or manual regulation.

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6926 MELROSE AVE. • HOLLYWOOD 38, CALIFORNIA
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The Ontario HUGHES OWENS CO. LTD. • OTTAWA, CANADA

▲ Mention Item NED-1618 when writing ▲

For Safety's Sake Use

DAYTON SAFETY LADDERS

Maintenance men everywhere rely on Dayton Safety Ladders for maximum safety and convenience. Daytons are constructed of tested airplane spruce and reinforced with rigid steel supports to give great strength and lightness of weight.

Handrails of steel guard the large roomy platform for added safety. Half of platform can be raised to form an extra step, when needed. These famous ladders can be set up instantly, are easy to carry and fold compactly for storing. Automatic locking feature insures safety while ladder is in use.

Sizes 3 feet to 16 feet in height with standard rubber safety shoes at no extra cost.

Write today for Bulletin No. 10

DAYTON SAFETY LADDER CO.

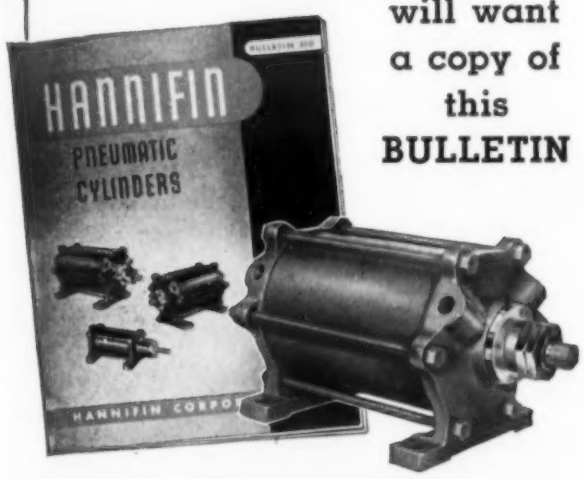
2339 GILBERT AVE. CINCINNATI, OHIO

In Canada—Safety Supply Company—Toronto

▲ Mention Item NED-1619 when writing ▲

EVERY ENGINEER

will want a copy of this BULLETIN



It's easy to get the right answer for even the most special jobs when you use Hannifin's new hand-book on PNEUMATIC CYLINDERS. 48 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is completel 10 standard bore diameters, 1" to 12" . . . any length stroke you specify . . . 6 standard mounting styles . . . also combination mounting and double end rod styles . . . available with adjustable cushions . . . pressure to 250 lbs. per sq. in. Write for Bulletin 210.

HANNIFIN CORPORATION

1127 S. Kilbourn Ave., Chicago 24, Ill.

▲ Mention Item NED-1620 when writing ▲

NEW MOTOR SPEED CONTROLS

for D-C Motors from A-C Lines

THIS new VARIAC Speed Control features: Operation of 1/3 and 1/4 h.p. d-c Shunt or Compound Motors from a-c Lines—Continuously Variable Speed Range of Over 15 to 1—Fast Starting—Large Overload Capacity—Fast Stopping—Dynamic Braking—Fast Reversing—Good Speed Regulation—Smooth Operation—Less Torque Pulsation—Straightforward Circuit—All Control, Equipment and Circuits in One Small, Easily Mounted Box—Does NOT Require Special Motor—Efficiently Controls ANY D-C Shunt or Compound Motor of 1/3 or 1/4 h.p. Rating.

Write for the new MOTOR CONTROL BULLETIN

GENERAL RADIO CO.

Cambridge 39, Massachusetts

NEW YORK CHICAGO LOS ANGELES

▲ Mention Item NED-1621 when writing ▲

TOOL RACK
facilitates storage of all items

Complete storage equipment for tool rooms and stock rooms is provided by redesigned units. Illustrated tool rack contains four different types of cabinets. Sloping front unit for storage of small tools and supplies provides 88 openings in 8 depths with shelf dividers adjustable every inch. Drawer case unit for small tools, cutters and supplies has five dividers in each drawer. Suitable for storing drills, reamers and taps, sloping shelf unit has 108 compartments on 8 shelves. Swinging panel unit which allows almost 27 sq ft of storage area for milling cutters, gages and templates has holes punched every inch. Other units available include drill rod, pigeon hole and bins for rags and waste. Made by **Lyon Metal Products, Inc.**, 324 Clark St., Aurora, Ill.

▲ Mention Item NED-1622 when writing ▲

FLOOR SWEEPING MAGNET
unloads quickly at both ends

Long low-clearance handle incorporated in series D Magnetool rotary floor magnet permits operator to pick up steel chips under equipment without stooping. Only 2¾-in. clearance is required. Since there are no wires, area of operation is unlimited. Tool is propelled in same manner as carpet sweeper, and steel parts jump to magnetic tube rotating with wheels. Unloading is effected by Neoprene wiper ring which pushes parts to nonmagnetic area at either end, where entire load is instantly released. Inertia brakes prevent roll when unit is not in use. Obtainable in five sizes, tool is waterproof and oilproof; and acidproof models can be supplied for use in tank solutions. Made by **Multifinish Mfg. Co.**, Dept. 457A, 2114 Monroe Ave., Detroit 7, Mich.

▲ Mention Item NED-1623 when writing ▲

DO YOU KNOW? Squeezing out a tube of tooth paste or any other tube-packaged product by hand may become a thing of the past. Tube Roll-Up, a plastic key, slides easily over base of tube. Simple turning of integral handle forces tube's contents out as required. Made by Tube Roll-Up Co., 510 Manhattan Bldg., Toledo 4, O.

▲ Mention Item NED-1624 when writing ▲

Stanzoils

Hot 'n Cold Neoprene Coated Gloves

Work Comfort in Temperature Extremes from −85° to +314°F.

This Stanzoil Hot 'n Cold Glove is designed expressly for use in industry where liquid-tight hand protection in extremely high and extremely low temperatures is required. Several insulating layers of fleecy material are coated with bright red DuPont milled neoprene that resists damage from oils, acids and caustics.

Tests on this glove show that work is possible in liquids at temperatures of 85° below zero and 314° above zero, Fahrenheit scale. Laboratory workers hands were comfortable after a half hour's immersion in a liquid whose temperature was 12°F.

For more information, complete catalog and prices write us. Refer to Stanzoil No. R-28. *The Pioneer Rubber Company, 634 Tiffin Road, Willard, Ohio, Los Angeles 4, California.*

STANZOIL PIONEER

OVER 30 Years OF QUALITY GLOVE MAKING

▲ Mention Item NED-1625 when writing ▲

Use **WEDGE** PROTECTORS *and* **SAVE MONEY!**

Protect Valuable Parts in PROCESS, STORAGE or SHIPPING

HEAVY PROTECTOR

LIGHT GAUGE PROTECTOR

You can greatly reduce losses due to damage of valuable parts by using WEDGE Protectors. They cost cents and save parts valued at many dollars. We specialize in plugs and caps for protecting conduit, pipe, tube, tap and plain openings or valves. If necessary we will make up special. Use WEDGE Protectors for valuable parts in process, storage or shipping—you will save money and avoid customer complaints. It will pay to investigate.

Write for Further Information

WEDGE PROTECTORS, INC.

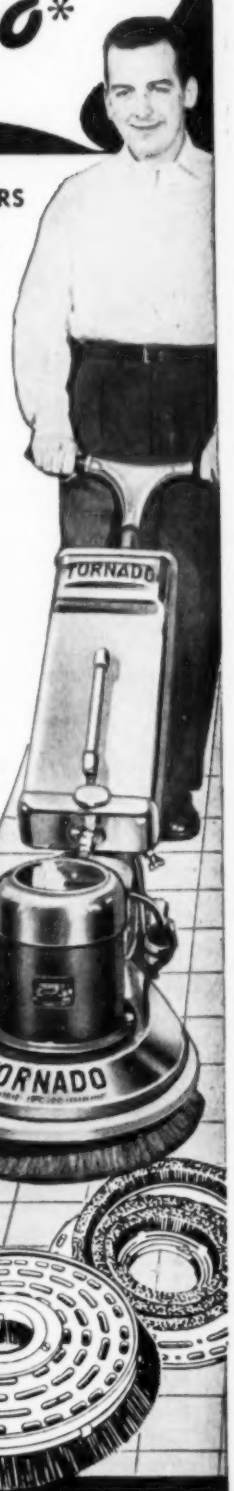
3973 Jennings Road Cleveland 9, Ohio

Use WEDGE Chill Rings-Thread Protectors

▲ Mention Item NED-1626 when writing ▲

We haven't had an accident since we got our New

TORNADO*



CLEAN FLOORS ARE SAFE FLOORS

With the new TORNADO* All-Purpose Floor Machine floors are so easily kept clean and safe that accidents are reduced to a minimum. The TORNADO* provides a complete plant maintenance service throughout all buildings. It preserves and adds years of life to all types of floors and floor coverings.

The new TORNADO* is designed for the operator. Proper balance plus the new "feather touch" control make the TORNADO* the smoothest, easiest operating floor machine available. It lets your maintenance men do more work without fatigue. You'll save cleaning time and get a better job.

NEW EXCLUSIVE FEATURES

New TORNADO* features are practical. All contribute to ease of operation, floor maintenance savings and operator satisfaction.

- Automatic brush coupling.
- Rotary safety-grip switch.
- Finger-tip solution control.
- Self-retracting wheels.
- "FOAM-FEED" brush back design.
- Fully adjustable handle.
- Cushioned motor for quiet operation.
- And in Addition—Only TORNADO* offers "Quick Change" replaceable bristle rings.

All-Purpose Applications. Special attachments and "quick change" brush bristles make the TORNADO* a truly versatile machine. With one TORNADO* you scrub, wax, polish, buff, sand, steel wool or pumice any floor in your establishment.

You'll get TORNADO* quality and performance at no extra cost.

Bulletin 583 contains complete information and specifications. Ask for it.

*Trade Mark Reg. U. S. Pat. Off.

BREUER ELECTRIC MFG. CO.

5098 Ravenswood Avenue • Chicago 40, Illinois

▲ Mention Item NED-1627 when writing ▲

TRY KEEPING YOUR CHIN UP

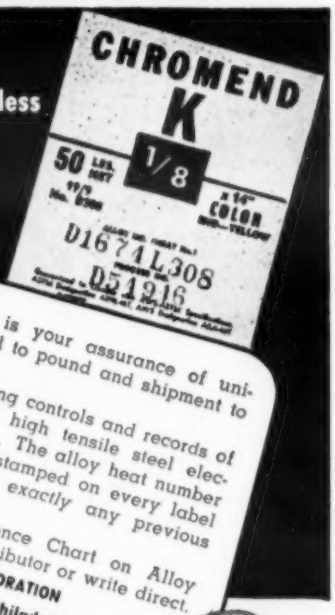
WITH HOLES IN YOUR FLOOR

. . . but you NEEDN'T HAVE HOLES in your floors—or have bad floors of any kind. It's so easy—so inexpensive—to repair a bad floor that industrial plants should not tolerate them at all. Send for free illustrated literature giving full information on how to rid your plant of floor troubles.

FLASH-STONE
COMPANY, INC.
3723 Pulaski Ave., Philadelphia 40, Pa.

▲ Mention Item NED-1630 when writing ▲

This Record Safeguards Your Stainless and High Tensile Welding Jobs



The Arcos label is your assurance of uniformity from pound to pound and shipment to shipment.
Careful manufacturing controls and records of Arcos stainless and high tensile steel electrodes are the reason. The alloy heat number and process number stamped on every label permit you to match exactly any previous order at any time.
Get the Arcos "Reference Chart on Alloy Welding" from your distributor or write direct.

1500 South Fiftieth St. ARCOS CORPORATION Philadelphia 43, Penna.

WELD WITH ARCOS

▲ Mention Item NED-1631 when writing ▲

THE EMPLOYER'S *Best Friend*

The mat that cuts breakage costs, prevents accidents, promotes sanitation, saves money . . . . .

AMERICAN COUNTER-TRED

IDEAL FOR USE

in shower stalls, kitchens, locker rooms, lavatories and around machinery where there is a minimum of oil.

Non-slip surface. Resiliency reduces fatigue. Exceptionally tough and long wearing under heaviest traffic. Made of cotton cord bound together with rubber compounds. Ridged bottom affords aeration and drainage. Rolls up for mopping of floor. 3/8 inch thick. 2 feet wide; any length in one-foot sections vulcanized together.

AMERICAN MAT CORPORATION
1733 Adams Street Toledo 2, Ohio

( ) Please send prices on American Counter-Tred Matting. Please send information on ( ) Ameriflex Flexible Wood Link Matting; ( ) Tuf-Tred Tire Fabric Matting; ( ) Neo-Cord Counter-Tred Safety Matting; ( ) Ezy-Rug Colored Rubber Link Matting; ( ) Tile-Top Sponge Matting; ( ) Traffic-Tred Matting; ( ) Do-All All-Purpose Rubber and Cord Matting; ( ) Ever-Tred Vinyl Plastic Link Matting.

Name
Firm
Street
City & State

IN CANADA { OFFICES: American Mat Corporation, Ltd. Canada Trust Building, Windsor, Ontario
FACTORY: West Lorne, Ontario

▲ Mention Item NED-1632 when writing ▲

STEAM CLEANING MACHINE can be adapted quickly for use as process heat generator

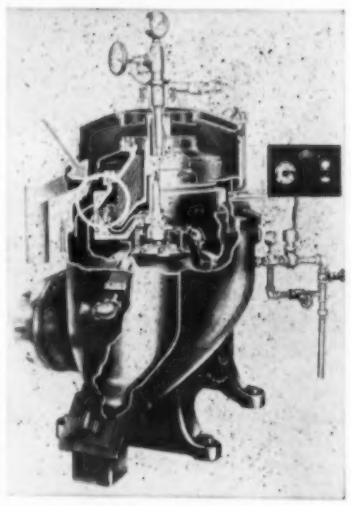
Having 300-gph capacity, Super-Duty Hypressure Jenny steam cleaner quickly cleans grease, grime and dirt from machinery and equipment. With choice of one to four cleaning guns and instant selection of desired chemical strength, machine is easily adaptable to any specific cleaning job. Full operating pressure is reached within 2 minutes from cold start.

By simply loosening two bolts and reversing crank arm, machine can be changed over for use as heat generator, having heat output equivalent to that of 25-hp boiler. It is then suitable for heating tanks of viscous fluids such as tar or molasses, thawing frozen cars and culverts, pasteurizing, sterilizing, curing concrete blocks and other uses.

Machine is available in trailer mounted, portable and stationary models. Standard equipment includes ½-in. Hypower cleaning gun, 25-ft length each of ½ and ¾-in. vapor hose and choice of gasoline engine or 1-hp electric motor. Made by **Homestead Valve Mfg. Co.**, Hypressure Jenny Div., P. O. Box 84, Coraopolis, Pa.

▲ Mention Item NED-1633 when writing ▲

CENTRIFUGE provides external solids control



Employing stratification principle of high separating efficiency combined with high capacity, model DV-2 centrifuge develops centrifugal force equal to 6200 times force of gravity. Machine can be obtained as either separator or clarifier. While solids' discharge is generally controlled by external timers, it can be operated also by process control instrumentation. Ten externally controlled solids' discharge valves located radially around inside of bowl are operated by admission of water or other operating liquor through separate channel of centrifuge. Both frequency and duration of valve opening are precisely adjustable. Unit provides control over consistency of solids; minimized loss of mother liquor and broad scope of centrifugal application in that flocculent suspensions, slimes and other troublesome solids can be handled efficiently. Made by **Sharples Corp.**, 2335 Westmoreland St., Philadelphia 40, Pa.

▲ Mention Item NED-1634 when writing ▲

When Electric Power Fails . . .

Prevent Spoilage of Materials in Process

Model 10EL
10,000 watts, A.C.

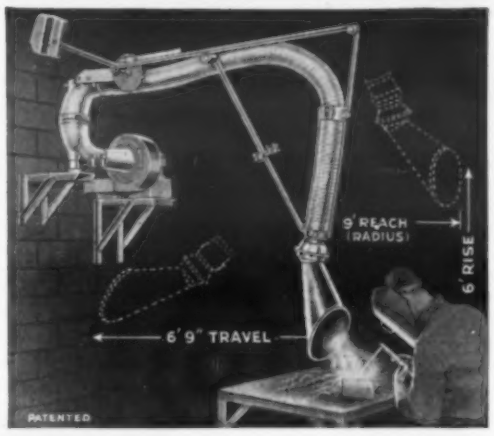
with **ONAN STANDBY ELECTRIC PLANTS**

An Onan Standby Electric Plant, equipped with automatic controls starts by itself and takes over the job of supplying electricity whenever commercial power fails. Processing and assembly lines, refrigeration, heating and ventilating systems, and lighting continue to operate with only a few seconds of lost time. This insurance is inexpensive, one power failure may pay the entire cost of the electric plant. Built for heavy duty use, Onan plants will run continuously if necessary. 1,000 to 35,000 watts. Shipped complete.

Onan PRODUCTS WRITE FOR FREE FOLDER

D. W. ONAN & SONS INC.
6446 Royalston Ave., Minneapolis 5, Minnesota

▲ Mention Item NED-1635 when writing ▲



RUEMELIN Fume Collector
Removes Welding Fumes at the Source . . .

Why continue to let your employees inhale welding fumes? You can solve the problem quickly and efficiently by installing a Ruemelin Fume Collector. It produces a powerful suction that draws out noxious gases, smoke and heat at the source. Guards employee health, resulting in less welder fatigue, therefore greater plant output. Clears shop air with minimum loss of building heat. Covers maximum welding area vertically, horizontally and by circle swing. Shipped assembled, easy to install. 9 ft. and 15 ft. sizes (radius of swing).

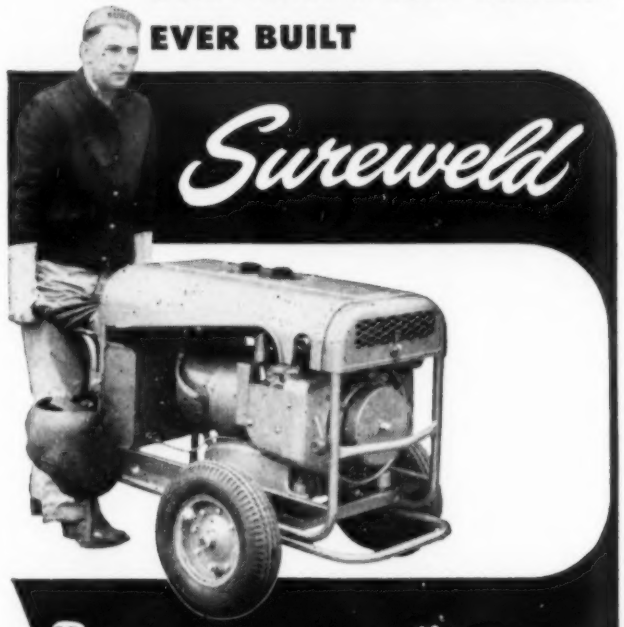
Free engineering service for your fume collector installation. Write for New Bulletin 37-D.

RUEMELIN MFG. CO.
3883 N. PALMER STREET MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

A 5258-¼R4

▲ Mention Item NED-1636 when writing ▲

THE MOST PORTABLE GAS-DRIVEN ARC WELDER EVER BUILT



Portable on the job... as well as to the job

MODEL HGW-150
Weighs only 365 lbs. Air-cooled gasoline engine. Heavy duty generator. Dual controls. Equipped for emergency lighting.

THIS is the welder that can be used *anywhere* because it's compact, and the lightest-weight gas driven D-C machine ever built. One man can move it easily; two men can lift it.

Yet, it is strong and durable because of a weight-saving air-cooled engine and the extensive use of aluminum. And it has the capacity to do a wide range of welding jobs in construction work, maintenance and repair.

No other machine can match the SUREWELD HGW-150 for portability and performance. And it can quickly pay for itself by cutting welding costs.

Write today for Illustrated Bulletin

NATIONAL CYLINDER GAS COMPANY
846 North Michigan Avenue Chicago 11, Illinois

NCG
EVERYTHING FOR WELDING

Copr. 1950, National Cylinder Gas Company

▲ Mention Item NED-1637 when writing ▲

TRIPLE DUTY CHAIR
Has Body Building Features

Domore Chair Company, Inc., Elkhart, Indiana announce their new #625 Model Executive Chair.

Model No. 625

PRODUCED BY POSTURE PIONEERS FOR COMFORT AND ENDURING SERVICE

Designed to encourage a correct, healthful sitting posture and to provide for relaxation and relief from restlessness, it also permits of a mild abdominal exercise while seated.

Molded foam rubber in oscillating back, arm rests, and in seat, which also has a specially designed spring unit, means sitting comfort seldom experienced in an office chair. Like all Do/Mores, it is completely adjustable and fitted to the individual by men who "know how". Beautifully tailored in a wide range of upholstery coverings, and finished to match other furniture, it is at home in any surroundings.

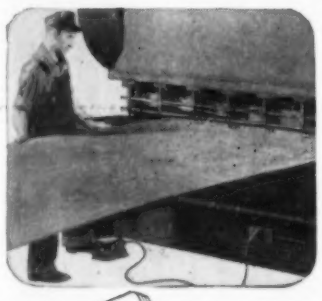
Free literature describing this chair and many other Do/Mores, with details of how a demonstration may be had in your own office, without obligation, may be had by writing Dept. 330, **Domore Chair Company, Inc.,** Elkhart, Indiana. *Advt.*

▲ Mention Item **NED-1638** when writing ▲

TOE CONTROL ELIMINATES KNEE ACTION

Electric foot switch cuts operator fatigue.

HEAVY SHEARING MADE EASY



If you have spent a day at a shear with the old mechanical foot treadle, you know what knee action is. As the hours roll by it grows more and more tiresome, fatiguing, and production slips accordingly.

Steelweld has done something about it. Electric foot switches have been adopted as standard equipment. Knee action has been replaced by fast easy toe control.

Steelweld Shears are in a class by themselves. Sizes for cutting 1/8" to 1-1/2" plate to 18'-0" long.

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free copy Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6619 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

▲ Mention Item **NED-1639** when writing ▲

ARMSTRONG-BRAY
GEAR and WHEEL PULLERS

Quickly and easily pull gears, wheels, pulleys and bearings off of shafts without damage or breakage.

Improved designs make them easy to set up and safe in use—the harder the pull the tighter the grip.

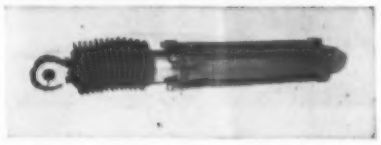
12 types, 40 sizes—2-arm, 3-arm, standard and special STEELGRIP Pullers with drop forged arms and heat treated screws as well as CHAINGRIP Universal Pullers that reach to considerable distances from end of shaft.

Write for Catalog

ARMSTRONG-BRAY & CO.
5362 NORTHWEST HIGHWAY
CHICAGO 30, U.S.A.

▲ Mention Item **NED-1640** when writing ▲

TELESCOPING SLEEVE
protects moving shafts and parts



Developed to protect piston rods, lead screw and shafts from dirt and damage, this telescoping accordion sleeve is fabricated of rubber, fabric and Gortite to give flexibility and maximum strength. It is nonhygroscopic, impervious to oil and water and is of uniform thickness. Sleeves can be provided from 1 to 12 in. ID and from 2 to 24 in. OD in lengths from 2 in. to 30 ft. Made by **A & A Mfg. Co.,** Dept. 14, 2017 W. Clybourn, Milwaukee 3, Wis.

▲ Mention Item **NED-1641** when writing ▲

NONRENEWABLE FUSE
is of powder-packed type

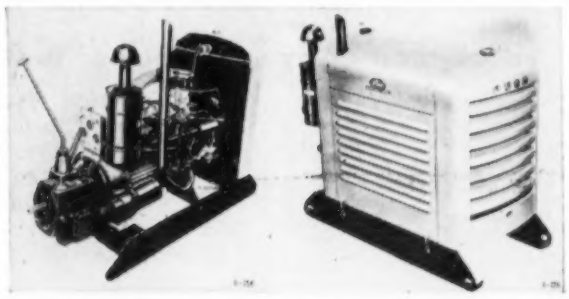
Meeting requirements of NEC, this nonrenewable fuse can be obtained for service at 250 and 600 v for current ratings from 3 to 600 amp. Fuse is filled with com-

mercial composition to cut down arc and eliminate flash through case when device blows. It is suitable for one-time use in manufacturing plants, construction industries, railroads and coal mines where positive electrical protection is desired. Knife type blade has tamperproof drive screws to hold caps securely, and ferrule design assures efficient operation by concentrating heat to center of fuse and holding heat loss at clips to minimum. Made by **Ware Fuse Corp.,** 4500 W. Lake St., Chicago 24, Ill.

▲ Mention Item **NED-1642** when writing ▲

INDUSTRIAL POWER UNITS
available either open or enclosed

In addition to open construction, industrial gasoline engine power units can be supplied complete with radiator, instrument panel and SAE or Ford type housings and



have skid type mountings. They can be obtained with or without clutch; power take-off; and three, four or five-speed transmissions.

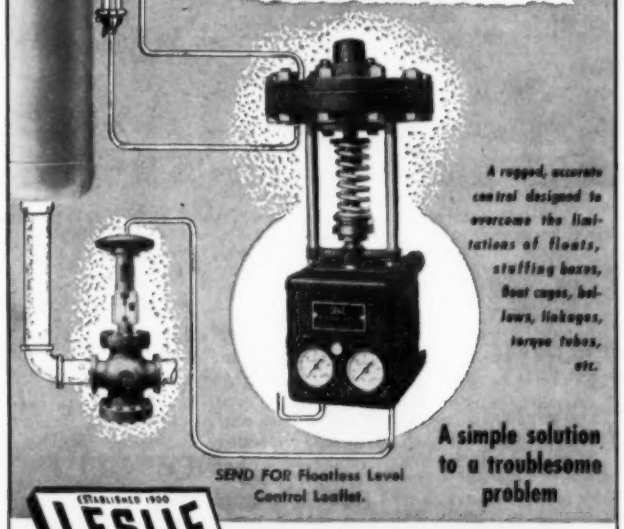
Line consists of two 6-cylinder models, two V-type 8-cylinder units and one of 4 cylinders. Piston displacement of 4-cylinder unit is 120 cu in; of 6-cylinder models, 226 and 254 cu in; and 8-cylinder models, 239 and 337 cu in. Made by **Ford Motor Co.,** 3000 Schaefer Rd., Dearborn, Mich.

▲ Mention Item **NED-1643** when writing ▲

TRADE LESLIE MARK

Floatless LEVEL CONTROL

for BOILERS, TANKS, EVAPORATORS, HEATERS, STANDPIPES, etc.



A rugged, accurate control designed to overcome the limitations of floats, stuffing boxes, float cages, bellows, linkages, torque tubes, etc.

SEND FOR Floatless Level Control Leaflet.

A simple solution to a troublesome problem

ESTABLISHED 1900 LESLIE CO. FIFTIETH ANNIVERSARY

227 Grant Avenue, Lyndhurst, New Jersey

PRESSURE REDUCING VALVES • • PRESSURE CONTROLLERS
PUMP GOVERNORS • • • TEMPERATURE REGULATORS
SELF CLEANING STRAINERS • • LESLIE-TYFON WHISTLES

▲ Mention Item **NED-1644** when writing ▲

Engraving

Here is the most versatile machine...So simple to operate by unskilled labor.

PROFILING VERTICAL MILLING

NEW HERMES Engravo graph

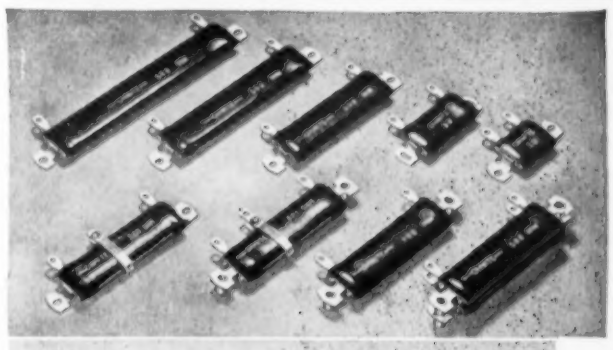
This heavy duty bench type model covers a larger engraving area than any other machine of its kind.

Send for illustrated booklet H

NEW HERMES, Inc.

Dept. #26 13-19 UNIVERSITY PL. • NEW YORK 3
World's Largest Manufacturer of Portable Engraving Machines

▲ Mention Item **NED-1645** when writing ▲



PACK HIGHER WATTAGE INTO LESS SPACE

WITH OHMITE THIN RESISTORS

Compact design gives Ohmite Thin Type Resistors higher wattage per unit of space . . . providing a space-saving installation. These resistors measure only ¼ inch thick by 1 inch wide, and range in length from 1¼ to six inches. They are available in five sizes, from 30 to 75 watts, in a wide range of resistance values.

SINGLE-UNIT BRACKET

ADJUSTABLE

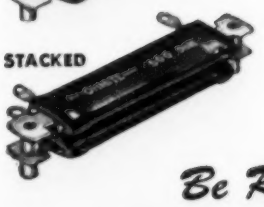
FIXED

STACKING BRACKET

ADJUSTABLE

FIXED

STACKED



Compact mounting of Ohmite Thin Type Resistors is facilitated by the integral mounting brackets, which cannot rotate or become loose. These brackets distribute heat more evenly throughout the resistor and conduct heat away quickly. Special studs on the stacking type brackets enable two or more resistors to be mounted together.

Of time-proven construction, these thin type resistors embody all the superior characteristics of other Ohmite resistors . . . strong ceramic core . . . uniform winding to prevent "hot spots" . . . protective vitreous-enamel covering.

Ohmite Thin Type Resistors—with either type of mounting bracket—are available with a bare-wire side and an adjustable contact for securing odd resistances easily.

Send for descriptive Bulletin No. 138

OHMITE MANUFACTURING CO.
4842 Flournoy St., Chicago 44, Ill.

Be Right with

OHMITE

RHEOSTATS • RESISTORS • TAP SWITCHES

▲ Mention Item **NED-1646** when writing ▲

The Men with the Holes in their Heads!

Big holes! Little holes! Deep holes! How can we bore 'em better for less? This may be your problem occasionally. But boring holes at lower cost is the full time problem for Madison engineers. This specialization can save *you* money just as it is doing every day for leading manufacturers. Why not take advantage of the two big things — Madison experience and Madison tools — that can cut cost on your production boring jobs. You're welcome to put another hole in one of our engineers' heads. Ask them to consider your problem and come up with a cost lowering idea. No obligation, of course. *Write for the information filled Madison Catalog.*

BETTER BORING TOOLS . . . MORE BORING EXPERIENCE

MADISON MANUFACTURING COMPANY
Dept. ED Muskegon, Michigan

▲ Mention Item NED-1647 when writing ▲

WHITING CORP. Cites 3 Advantages OF FULLERGRIPT BRUSHES

Now Standard Equipment on all Whiting Bus Washers

Whiting engineers have standardized on Fullergript brushes with plastic cores for their bus washers because (1) greater control over the density of bristles may be maintained, (2) the bristles stay in the brush and (3) when replacements are necessary, they may be made in a matter of minutes instead of hours. Small segments of the Fullergript strip may be replaced as they wear down. The brush material is wire-anchored under great pressure inside a rigid, rust-resistant metal channel.

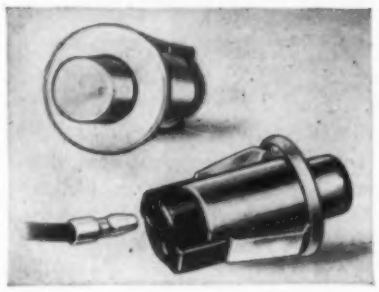
Whiting Bus Washers, which thoroughly clean a bus in less than a minute, are helping many transportation lines to build good customer relations by meeting the public's growing demand for clean, attractive equipment. The Whiting Corporation, like scores of other companies in a wide variety of industries, has found that it pays to standardize on Fullergript. Have *you* investigated the time and cost-saving possibilities of Fullergript for your plant? For information write to...

FULLERGRIPT The FULLER BRUSH CO.

INDUSTRIAL DIVISION, 3530 MAIN STREET, HARTFORD 2, CONN.

▲ Mention Item NED-1648 when writing ▲

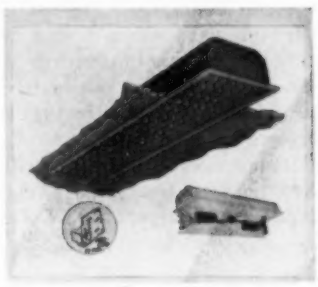
MOMENTARY-CONTACT SWITCH
features quick snap-in mounting



Capable of being mounted and connected in less than 15 seconds, No. 7712 momentary - contact pushbutton switch snaps easily into punched hole in metal panel which it grips securely with expansion spring fingers having ample range to suit panel thicknesses from 0.030 to 0.050-in. Electrical connection is made by plugging standard solderless wire terminals into spring contacts recessed in molded phenolic switch body. Body diameter of switch is ⅝-in., flange diameter is 1 in. and overall length is 1-9/16 in. Normally closed single-pole single-throw contacts are opened when button is pushed ⅛-in. Switch is rated at 1 amp, 125 v ac. Made by **Ark-Les Switch Corp.**, 42 Water St., Watertown 72, Mass.

▲ Mention Item NED-1649 when writing ▲

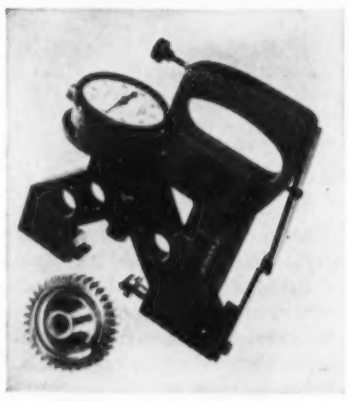
FLUORESCENT FIXTURE
recessed unit for slimline lamps



Removable ends of Skylette fluorescent fixture permit continuous mounting and even flow of light with no partitions at joints of troffers below reflectors. It is available with two, three or four slimline lamps. Recessed troffer combines modern appearance with high efficiency. Unit has hinged wiring channel which is removable without tools, snap-on hinges and baked white enamel finish. Made by **Neo-Ray Products, Inc.**, 317 E. 22nd St., New York 10, N. Y.

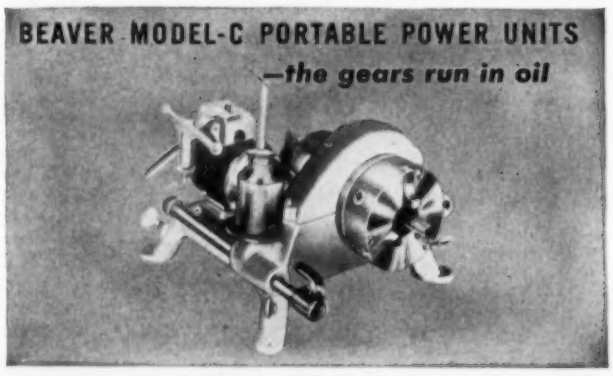
▲ Mention Item NED-1650 when writing ▲

EXTERNAL SPLINE GAGE
checks odd or even number of teeth



Designed around standard Nilco dial snap gage, this external spline gage uses hardened rolls on upper and lower anvils and lifting lever which will depress lower anvil to clear outside diameter of spline or gear. This gage will check pitch diameter gears having odd or even number of teeth. Lower anvil is free to rotate slightly so that two rolls can align themselves with gear teeth. Made by **Nilsson Gage Co.**, Lake & Fairview, Poughkeepsie, N. Y.

▲ Mention Item NED-1651 when writing ▲



Compare These 6 Beaver Exclusive Advantages

• Beaver Model-C Portable Power Units have six unbeatable sales advantages. They're exclusive with Beaver and help make Model-C the favorite of piping contractors everywhere. Check these extra advantages and make sure you have the fast-selling Beaver Model-C units available at all times:

1. All gears are fully enclosed — run in oil.
2. Safety switch-lock and chuck wrench holder — patent pending.
3. Patented safety lock — holds pipe tool handle firmly.
4. Heavy-duty ⅛" to 2" chuck — full size, full range.
5. Cast steel-iron housings insure greatest strength and maximum stability when driving geared cutters and threaders.
6. Conveniently located heavy-duty, weather-proof motor provides plenty of power. Properly located for safety, cool operation, longer brush and armature service.

Write today for catalog and prices. Address Beaver Pipe Tools, Inc., 242-300 Dana Avenue, Warren, Ohio, U.S.A.

50 Years of Friendly Service

BEAVER PIPE TOOLS

▲ Mention Item NED-1652 when writing ▲

MOTOAIR

VACUUM or PRESSURE PUMP delivers faithfully according to its rating; built in ONE integral unit; has *less* parts to wear out; demands *less* space; lubricates itself *automatically; eliminates* extended drives, gears and belts; operates *without* pulsation, and serves a score of industries. Slightly larger than the motor that runs it, it operates at lower maintenance costs.

Get complete FACTS—*then decide!*

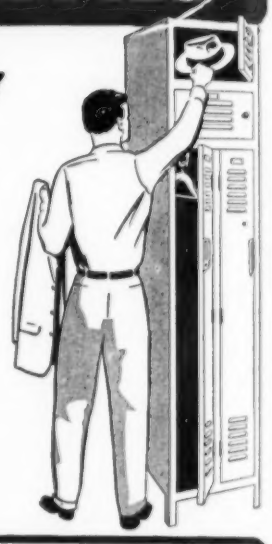
809

NEW JERSEY MACHINE CORPORATION
1530 Willow Ave. • Hoboken, N. J.
Factory offices in Chicago, Cincinnati, Los Angeles

▲ Mention Item NED-1653 when writing ▲

END LOCKER ROOM "EVILS"

THE Penco 1869 WAY



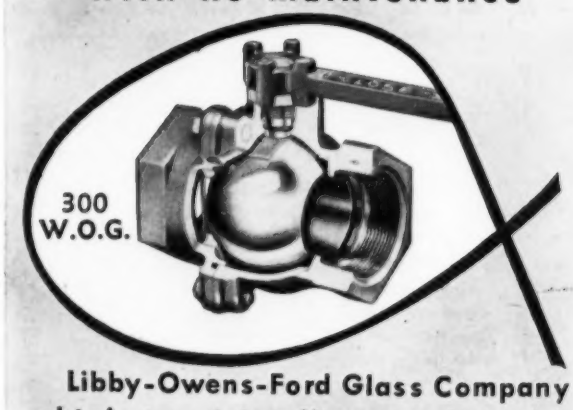
The Penco 2-Person Locker eliminates crowding, discomfort, petty thefts that irk employees. A large, *private* locker for each worker in *half the usual area!* This morale-building space-saver is just one of 50 Penco Lockers. Write for prices, catalog, installation data for your *specific* needs.

Insist on PENCO Quality

PENN METAL Corporation of Penna.
Steel Lockers, Cabinets, Shelving
82 Oregon Ave., Phila. 48, Pa.
FOUNDED 1869 by L. Lewis Sogendorph

▲ Mention Item NED-1654 when writing ▲

operated 350,000 times with no maintenance



Libby-Owens-Ford Glass Company obtains outstanding results with Rockwood Ball Valves - Only Valve to stay in service over a year

Two 1½" Rockwood Valves were used on river water to mix plaster for the Grinding and Polishing line. Both Valves were worked 24 hours a day, 5 to 6 days a week, and operated approximately 1500 times a day, depending on line speed. Company official says, "Best service we could get from other makes of valves prior to this was 6 to 8 weeks."

Write for bulletin V-4 today.

ROCKWOOD SPRINKLER CO.
44 HARLOW STREET WORCESTER 5, MASS.

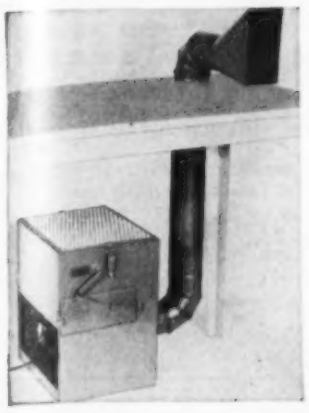
▲ Mention Item NED-1655 when writing ▲

STOP DUSTS

with **DUSTKOP** Complete Dust Collection "System" (314 cfm on 4" pipe)

Immediate Shipment—Only **$127.50**

FOR: small wheel grinding, buffing, polishing; jeweler's work; instrument and electrical mfr.; laboratory and small shop use.



Heavy sheet steel cabinet encloses paddle wheel fan, direct driven by 3600 rpm 110 V, 1 ph, 60 ac, GE (or equal) continuous duty motor; two stage dust separation; spun glass (firesafe) filter; Hood 4" x 8" and connecting pipe complete as illustrated, crated for shipment $127.50. Weight 75 lbs. FOB Mich.

Over 20 stock models 300 cfm to 3650 cfm for immediate installation.

Ask for information on any dust control problem. Catalog 605 shows many installations. No obligation.

AGET-DETROIT CO.

201 Main Street • Phone 2-5585 • Ann Arbor, Michigan

▲ Mention Item NED-1656 when writing ▲

Cut material and machining costs on stainless steel rings by letting Dresser form and flash-weld them from bar lengths.

Pioneers in making welded stainless rings, Dresser has the specialized equipment and know-how to meet exacting requirements. Sizes 4" to 72" diameter—up to 16 square inch cross section. Send blueprint or sketch with your inquiry.

DRESSER RINGS

Dresser Manufacturing Division (One of the Dresser Industries), Bradford, Penna.

▲ Mention Item NED-1657 when writing ▲

EYE LEVEL CHECK

ON BOILER WATER LEVELS

Positive, constant check on boiler water levels is now possible at eye level—right on the instrument panel or other convenient location.

Yarway's Remote Liquid Level Indicator is always accurate because it's operated by the boiler water itself. No stuffing boxes. Indicating mechanism is never under pressure.

Ideal for indicating boiler water level, feed heater water level, superheater pressure differentials and tank levels. For complete description and operating details, write for Bulletin WG-1822.

YARNALL-WARING COMPANY

131 Mermaid Ave., Philadelphia 18, Pa.

YARWAY

REMOTE LIQUID LEVEL INDICATOR

▲ Mention Item NED-1658 when writing ▲

PAPER JOGGER & SORTER

jogs, aligns, sorts and separates

While occupying space of standard typewriter, Jog-A-Sorter machine performs wide variety of functions. It jogs ream or more of paper or forms for gumming, stor-

ing or printing and separates or sorts sets of forms into originals and duplicates, departmental copies or any other desired division, while keeping all copies in original order. It can jog and align collated and gathered sets at high speed; strip statements from ledger cards; remove carbon copies or tissue sheets from sets of forms at 10,000 per hour; position carbons into sets of forms; and jog cards, checks, sales slips and other papers for microfilming. Since jogging table provides varying degrees of vibration from front to back, it handles different weights and sizes of paper without adjustment. Made by **Ditto, Inc.**, 2302 W. Harrison St., Chicago 12, Ill.

▲ Mention Item NED-1659 when writing ▲

WELDING ELECTRODES

employ low-hydrogen coatings

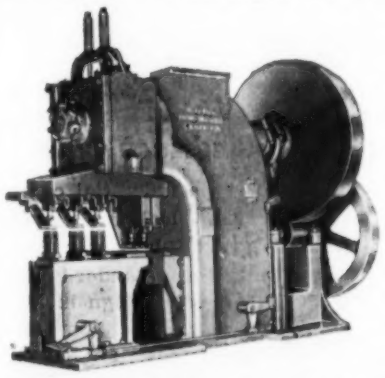
Recommended for alloy steels and steel castings, low hydrogen welding electrodes are coated with material developed to produce deposits low in hydrogen that eliminate under-bead cracking. They have moderate penetrating arc and form easy-to-remove slag. There are 14 different types available to meet requirements of various applications. Made by **Harnischfeger Corp.**, Welding Div., 4537 W. National Ave., Milwaukee 14, Wis.

▲ Mention Item NED-1660 when writing ▲

MULTIPURPOSE PUNCH

rated ram pressure is 235 tons

Recommended for use in structural steel and fabricating shops, No. 12 Universal punch has 2¼-in. stroke and 28½-in. throat depth. It can punch equivalent of 2½-in. hole through 1¼-in. mild steel. Machine is equipped with two low, three high and two gooseneck die holders along with necessary punching equipment to suit die holders. It can accommodate material ranging from 3-in. I-beams to 36-in. H-beams and is capable of handling broad range of flange and web punching without necessity of changing setups. Made by **Kling Bros. Engineering Works**, Dept. NED, 1300 N. Kostner Ave., Chicago 51, Ill.



▲ Mention Item NED-1661 when writing ▲

VAPOR TIGHT WATER TIGHT AND EXPLOSION PROOF

Tested *in service* in shipyards, airports, stadiums and industry, Russell and Stoll fixtures and fittings have pioneered with prestige for more than forty years.

The "know how" of design, precision production and careful inspection of R & S products meet all requirements of moisture, dust or explosion hazards.

The heavy duty angle type receptacle and plug illustrated is standard in ratings 10 to 400 amperes and single to four pole. Ask for catalog H47-15.

Sold Through Electrical Wholesalers

SALES OFFICES IN PRINCIPAL CITIES

RUSSELL & STOLL COMPANY, INC.

Precision-Built Electrical Equipment

125 BARCLAY STREET, NEW YORK 7, N. Y.

▲ Mention Item NED-1662 when writing ▲

80% Fewer Piping Connections with BRADLEY MULTI-STALL SHOWERS

A Bradley 5- or 3-Stall Shower Unit requires only three supply lines—hot water, cold, and drain—in comparison to fifteen plumbing connections needed by five "single-stall" showers. In addition they take less space, and reduce maintenance to a minimum since there are no dirt collecting corners or dark areas.

Bradleys afford other worthwhile savings also; in heating costs, water consumption; and in health protection. These economical Shower Units come partially assembled and can be installed on any kind of floor including wood.

BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan Street, Milwaukee 1, Wisconsin.

BRADLEY multi-stall showers

Distributed Through Plumbing Wholesalers.

Illustrated Catalog 4701 sent upon request.

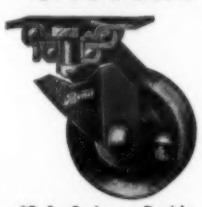
▲ Mention Item NED-1663 when writing ▲

Bond REG. U.S. PAT. OFF.

STRUCTURAL STEEL **CASTERS**

Companions in Strength

for easy, efficient movement of materials



40-A Series — Double Ball Race Structural Steel Swivel Caster.

41-A Series—Structural Steel Rigid Caster.

140-AH Series—Heavy Duty Double Ball Race Structural Steel Swivel Caster.

140-A-HVG Series—V-Grooved Wheel Double Ball Race Structural Steel Swivel Caster.

Bond Structural Steel Casters are available with Plain or Roller Bearing Wheels of Semi-Steel, Solid Rubber and Vulcanized-on Rubber Tread. Thread Guard types also available.

THESE Bond *built-for-the-job* casters are all members of one family of structural steel casters. Each of the three series of swivel casters has a double ball race designed for easy turning and for equal distribution of the load. All four series are built to withstand heavy loads and sudden shocks, and are pressure lubricated for long service life.

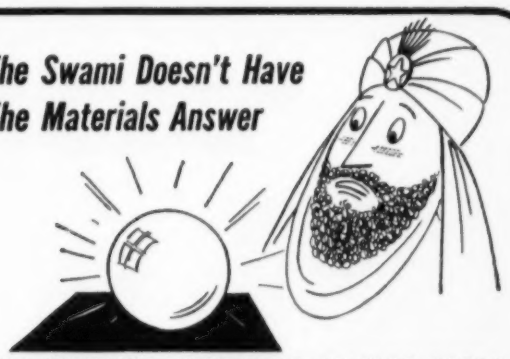
Bond Catalog K-38 fully describes these and other Bond Truck Casters. We will be glad to send you a copy on request.

BOND FOUNDRY & MACHINE COMPANY

308 PENN ST., MANHEIM, PA.

▲ Mention Item NED-1664 when writing ▲

The Swami Doesn't Have The Materials Answer



THE COMPLETE SYNTHANE CATALOG DOES!

Planning new parts and equipment, or modifying existing products and processes is easier when you have pertinent data on Synthane Laminated Plastics for Industry. You'll find them in the new Synthane Catalog.

It will help you find ideas on both material and fabrication, as it contains the salient facts on grades, sizes, properties, applications and forms of Synthane. You'll want a copy in your office library as a semi-permanent reference book.

Mail the coupon today for your free copy.

TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS

SYNTHANE

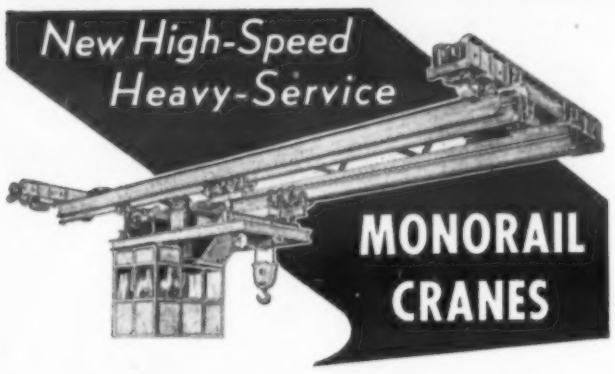
MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
Northeast River Road, Oaks, Pa.

Please send me a copy of the complete Synthane catalog.

Name_____
Firm_____
Address_____
City_____ State_____

▲ Mention Item NED-1665 when writing ▲



These new American MonoRail Cranes offer all the advantages of easy movement, rugged construction, low-cost operation and quick installation to handle load capacities up to 10 tons. Operate by cab or from floor by finger-tip control. Cranes can be installed under present operating conditions without excessive structural changes. An American MonoRail engineer will be glad to discuss the possibilities of crane operation, regardless of the type of handling.

Send for Bulletin MF-1 describing the development of American Mono-Rail Cranes.

THE AMERICAN MONORAIL COMPANY
13116 Athens Avenue • Cleveland 7, Ohio

▲ Mention Item NED-1667 when writing ▲

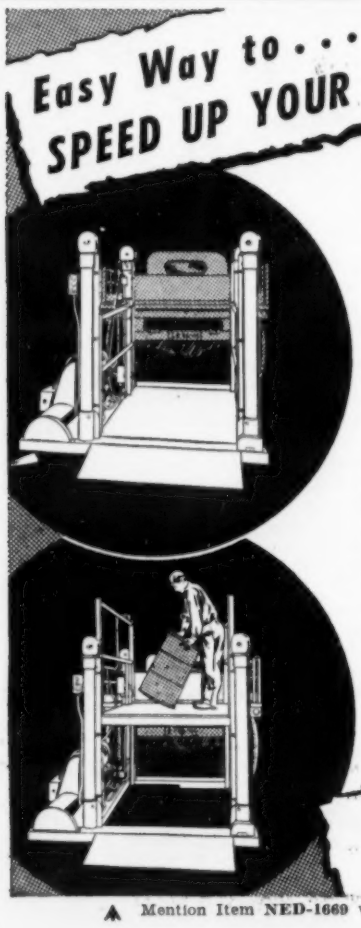
This full horsepower, 18,000 r.p.m. Router has a spot in every shop . . . for pattern work, production and construction. Used with Stanley-Carter high speed bits, it saves time . . . cuts costs. For special applications, tungsten carbide tipped bits can be furnished. Router is equipped with oversize oil sealed bearings. Endshield design keeps out dust. More useful for more years. See your dealer, or write for folder. Stanley Electric Tools, 563 Myrtle St., New Britain, Conn.

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • HAND TOOLS • ELECTRIC TOOLS • STEEL STRAPPING

▲ Mention Item NED-1668 when writing ▲

Easy Way to . . . SPEED UP YOUR SHIPPING!



ATLAS
ONE-MAN
TRUCK LOADER

"The Portable Loading Platform"

- 1 to 3 ton capacity
- Up to 20 ft. range
- Easily moved on retractable casters

Standard platform 4 ft. x 4 ft.—other sizes to meet your requirements. Electrically operated with either floor or platform control or both. Rugged, all welded steel construction. No strain . . . no exertion with Atlas One-Man Truck Loader.

Also Makers of HI-LIFT Extension Scaffold and HI-LIFT Marquee Servicer

Write for Complete Information

ATLAS INDUSTRIAL CORP.
853 - 39th Street
Brooklyn 32, N. Y.

▲ Mention Item NED-1669 when writing ▲

WET-DRY VACUUM CLEANER
portable unit has 5-gallon capacity

Designed for small and intermediate cleaning operations requiring lightweight easily handled unit, MCV-205A improved type vacuum cleaner moves air at rate of 108 cfm to effect good pickup of wet or dry materials. Machine weighs 36 lb, is 25 in. high and has 14-in. diameter. Water lift is 52 in. Exterior finish is baked enamel. Machine rides on one rubber ball-bearing swivel caster and two fixed rubber wheels and can be carried by handle on top or moved by pulling on hose. Filter adapts machine to dry or wet pickup work, and ⅝-hp 115-v universal motor provides adequate vacuum power. Made by **Multi-Clean Products, Inc.,** 2275-79 Ford Parkway, St. Paul 1, Minn.

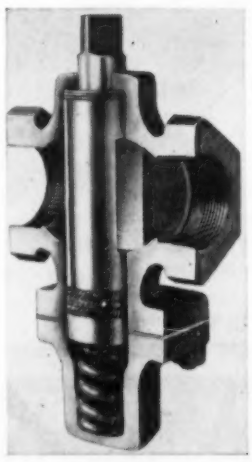
▲ Mention Item NED-1670 when writing ▲

AIR TURBINE MOTOR
has automatic governor control

Automatic governor incorporated in air turbine motor assures constant speed under load. Initial application of this motor is in illustrated D1-G ½-hp 50,000-rpm air turbine grinder. As load is applied to motor and resistance begins to reduce speed, automatic governor cuts in greater air volume to maintain rated rotational speed. When work load is removed, governor is again actuated and reduces air supply to normal. By this means, relatively constant speed within close limits is maintained. In addition to its application on D1-G grinder, air turbine motor with automatic governor can be supplied to manufacturers for use on their own equipment or machines. Made by **Onsrud Machine Works, Inc.,** 3956 Palmer St., Chicago 47, Ill.

▲ Mention Item NED-1671 when writing ▲

INDUSTRIAL CONTROL VALVE
is nonlubricated cylindrical type

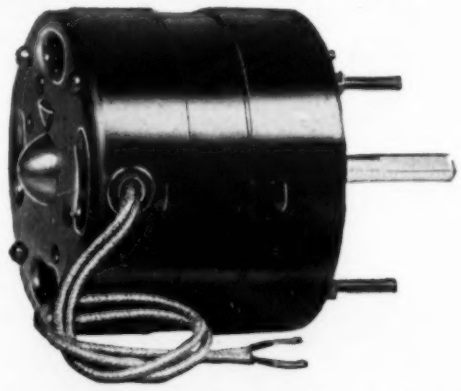


This plug type industrial control valve provides leakproof service without use of lubricant and can be obtained in standard sizes from ½ to 6 in. Design includes permanent seal at plug stem that seals packing at base of plug and fixed-load spring combined with close tolerance and microfinish on plug and body bore. Torque tests show that maximum of 250 lb-in. which is required at 250-psi line pressure is equivalent to force of 12½ lb acting on lever arm 20 in. long. Made by **Minneapolis-Honeywell Regulator Co.,** 2950 4th Ave. S., Minneapolis, Minn.

▲ Mention Item NED-1672 when writing ▲

SHADED-POLE MOTORS
are of four-pole induction type

Obtainable in ratings from 1/10 to 1/60-hp at 1550 rpm on 60 cycles, these four-pole shaded-pole induction motors are supplied in three styles of frames. Drawn steel hous-



ing with self-aligning bearings is offered for general purpose applications. Die-cast housing is available with ball or sleeve bearings. Third style is of unit bearing construction and is totally enclosed with sealed lifetime lubrication. Made by **Russell Electric Co.,** 4501 S. Western Blvd., Chicago 9, Ill.

▲ Mention Item NED-1673 when writing ▲

LEKTROMESH

THE UNIQUE SOLID-METAL SCREEN

Distinguished for its

★STABILITY in use
★UNIFORMITY of Hole Size
★WORKABILITY in Manufacturing Processes
★DIVERSITY of Applications to Research and Production

Electro-deposited in pure copper, pure nickel, or nickel-on copper — in regular commercial production with counts fron 25 to 400 per inch — in lengths up to 100 feet and widths u to 36 inches — with tolerances on hole size and thickne suitable for the most critical uses — LEKTROMESH is idea for precise filtration, for fabricated products such as fue filters and electronic shields, even for distinctive decorativ screens with an integral pattern. For full details let us sen our Bulletin on LEKTROMESH. Address Department 11.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS
LEKTROMESH
RESISTANCE WIRE
WIRE MESH PARTS
WIRE CLOTH
STRAINERS • FILTERS
SOUTHPORT CONNECTICUT
WIRE PRODUCTS SINCE 1880

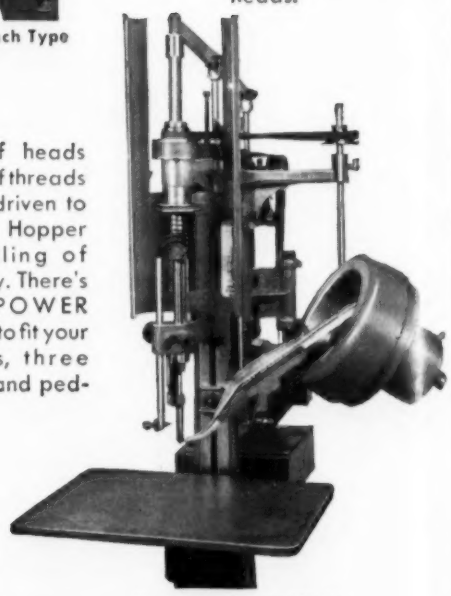
▲ Mention Item NED-1674 when writing ▲

YOU, TOO, CAN—
SPEED PRODUCTION AND CUT ASSEMBLY COSTS . . .
by this MODERN Machine Method

Model A—Bench Type

Thousands of manufacturers are profiting by the use of DETROIT POWER SCREWDRIVERS . . . They offer time and labor saving advantages too great to be overlooked. They will drive screws as fast as one a second! . . . Machine, wood, brass, self-tapping, sheet metal screws—standard heads, special heads.

No marring of heads ...no stripping of threads . . . all screws driven to uniform tension. Hopper fed, no handling of screws necessary. There's a DETROIT POWER SCREWDRIVER to fit your requirements, three models, bench and pedestal types.



Model B—Pedestal Type

Ask for Catalog

SEND SAMPLE ASSEMBLY FOR PRODUCTION ESTIMATE.

See Us, Booth 939, A.S.T.E. Show, Philadelphia, April 10-14.

DETROIT POWER SCREWDRIVER CO.
2819 WEST FORT ST. DETROIT 16, MICH.

▲ Mention Item NED-1675 when writing ▲

HANSEN - the Tacker with 1001 Uses

BOAT seats and life-preserver units shown being assembled with the Hansen Model T-2 Tacker—for Lee L. Woodard Sons Co., furniture manufacturers, Owosso, Mich.

Besides providing neater, longer-holding seat covers, the Hansen Tacker saves 6c per seat cover over former methods.

Balanced design; quick, easy action and other features make Hansen the *preferred* Tacker. Submit sample or sketch, with details of your problem.

REQUEST BOOKLET

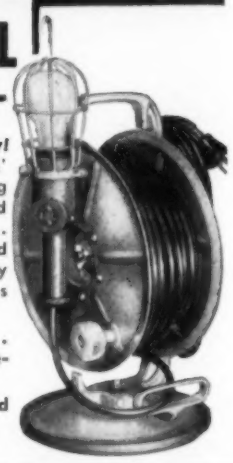
HANSEN

A. L. HANSEN MFG. CO.
5164 RAVENSWOOD AVE.
CHICAGO 40, ILL.

▲ Mention Item NED-1676 when writing ▲

Makes Extension Cords Last 5 Times as Long!

PORT-O-REEL
CORD SAVER



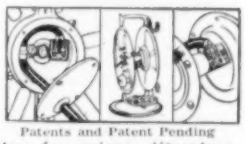
• ***Handling loose cord costs you money!*** Port-O-Reel eliminates kinks, knots, "birds' nests" . . . Saves up to 500% in handling time. Gives any length cord when, where, and how you need it . . . long cord handling . . . short cord ease . . . Re-wind 150-ft. of cord in 15 seconds! Cord exposed to wear only when unwound . . . makes cord last 5-times as long. Equip with any kind of cord.

• Weighs only 9-lbs. less cord and plugs . . . Reel dia. 12" . . . width 4" . . . Has free-turning winding knob.

• Available with or without cord and hand lamp.

• Has moisture-proof, running constant collector ring. Permits cord use as reel turns.

• Low, level-wind cord guide prevents kinks and knots. Balance prevents tipping. Rubber base prevents slipping.



Patents and Patent Pending

Save up to 500% on cord handling EXPENSE!

Write today for prices, literature and name of nearby distributor.

INDUSTRIAL ELECTRICAL WORKS
1504 Chicago Street Omaha, Nebraska

▲ Mention Item NED-1677 when writing ▲

Make on-the-job savings with APCO TORQUE TOOLS

There's no guessing how tight, no breaking of nuts to slow-down assembly and maintenance jobs, when you use Apco precision torque tools.

Easy-to-read dial gives accurate tension reading at a glance — is unaffected by temperature change or jarring, because it has no springs or intricate parts. Tension is simply measured by deflection of two steel bars.

Narrow head makes it a cinch to work into or around those hard-to-get-at-places — saves you time and money on fussy jobs.

All Apco Torque Tools are made of heat-treated nickel steel, in accordance with U. S. Government Specifications, and retain their accuracy under constant use. Available in a complete range of sizes from inch-grams and inch-ounces, up to 1,000 foot-pounds. All individually packed.

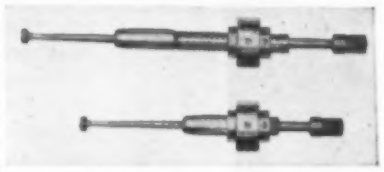
No. D36
0-3600 Inch Pounds

SEND FOR DESCRIPTIVE FOLDER TODAY!

APCO MOSSBERG CO.
161 LAMB STREET, ATTLEBORO, MASS., U. S. A.

▲ Mention Item NED-1678 when writing ▲

TUBE EXPANDERS
employ adjustable type collar



Made for tubes ranging from 5/8 to 1½ in. OD, these Ideal ball-bearing adjustable tube expanders effect tight joint. Collar remains stationary against tube end or sheet to reduce friction to minimum and also prevents pulling of tube or marring of sheet. Expanders can be adapted for use with automatic torque controlled operating units for precision tube rolling. Made by **Gustav Wiedeke Co.**, 1833 E. Richard St., Dayton 1, O.

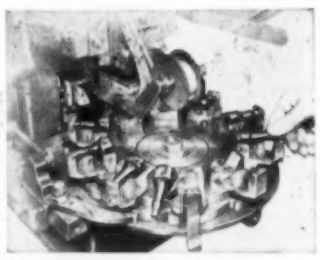
▲ Mention Item NED-1679 when writing ▲

CENTRIFUGAL PUMPS
deep well type have cartridge seal

These one, two and three-stage centrifugal pumps now employ cartridge seal on all models and improved air injector on multi-stage types. Rotary seal is contained in single cartridge which is removed and replaced simply and quickly without removing pump from well, breaking pipe connections or disassembling pump. Replacement of seal is from top of pump and can be accomplished in 15 minutes. Air injector continually introduces air into pressure region of tank between two impellers. Because of large volume of air pumped by injector, there is little possibility of tank becoming water-logged. Made by **Flint & Walling Co.**, 909 N. Oak St., Kendallville, Ind.

▲ Mention Item NED-1680 when writing ▲

HANDLE MARKING ASSEMBLY
hot-stamps wood or plastic in color



Applicable for use in standard Acromark series A power presses, this assembly effects hot stamping through color tape or foil into plain or enameled wood handles as well as molded plastic handles. It consists of stamping head locked in ram by means of standard shank. Stamping head carries interchangeable lettering or design dies, heated by cartridge type electric heating elements. Automatic tape feed unit attached to stamping head carries color foil underneath die and automatically advances it at each stroke of ram.

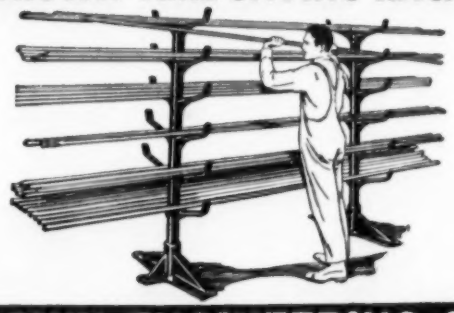
In bed of press, standard dial feed with ten or more stations is mounted. At each station is mounted floating type of holding fixture to carry handles to be marked. After each marking, part is ejected automatically by finger that lifts it from its holding fixture. Made by **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ Mention Item NED-1681 when writing ▲

THEY BOOST YOUR PROFITS

The BROWN TIME-SAVING RACK saves the time previously lost end-hauling each bar of stock its entire length from the old-style, closed-side Rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time, and returned to their production machines to turn out a maximum of output. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist: depreciation is practically nil. SEND FOR BULLETIN No. 26-D DESCRIBING THE

• BROWN TIME-SAVING RACK •



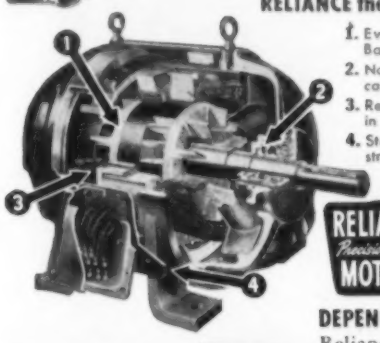
BROWN ENGINEERING CO.
129 N. THIRD ST. READING, PENNA.
RACKS • VISES • CLUTCHES • COUPLINGS

▲ Mention Item NED-1682 when writing ▲

WHY HASN'T SOMEBODY TOLD ME THIS BEFORE?

"...all motors are NOT ALIKE"

These 4 Advantages Alone make RELIANCE the motor that is different!



1. Every Motor Dynamically Balanced
2. No Lubrication Worries—"You can't grease 'em wrong!"
3. Reli-X Insulation—a new high in protection.
4. Steel Construction for maximum strength with minimum weight.

RELIANCE Precision Built MOTORS ...are made *better* to deliver DEPENDABLE POWER, LONGER!

Reliance has a way of building motors that must be seen to be fully appreciated. Any time we can take a motor user through the modern plants where Reliance PRECISION-BUILT Motors are made, we can be reasonably sure of another good Reliance customer. We would be delighted to have you make this visit. But if it isn't practical, call in a Reliance representative and *see* the convincing facts he can show you on the precision methods that produce these truly superior motors.

HOW TO SELECT THE RIGHT MOTOR

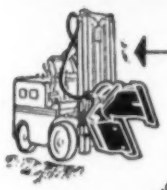
Here's a digest of information you should have in selecting the right motor for any job. New torque and current standards of the National Electrical Manufacturers Association for A-c. motors are tabulated and explained. And these are further supplemented by more detailed performance data on Reliance PRECISION-BUILT Motors. Write today for this important new Motor Data Bulletin, B-2101.

RELIANCE ELECTRIC & ENGINEERING CO.
1072 IVANHOE ROAD CLEVELAND 10, OHIO
Sales Representatives in Principal Cities

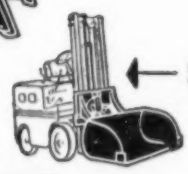
▲ Mention Item NED-1683 when writing ▲

CLARK Attachments

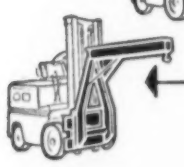
MAKE THE CLARK FORK TRUCK "MANY MACHINES IN ONE"



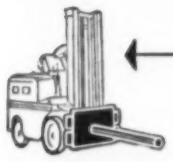
ROTATING ROLL CLAMP
Picks up a roll in either horizontal or vertical position and rotates it to the other



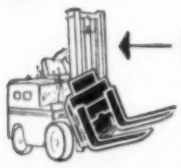
SHOVEL
For easy pick-up and dumping of sand, cinders, gravel, coal, aggregate and other bulk material



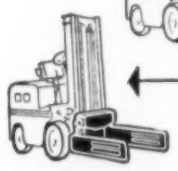
CRANE
For handling many large, unwieldy items unsuitable for forks and pallets; usually used with a chain



RAM
Handles coiled material, spools, castings and many fabricated units with openings to admit the ram



ROTATING FORKS
For handling and dumping special containers filled with scrap, bulk material and similar loads



CLAMP LIFT
For handling a tier of boxes or cases, by gripping the bottom unit firmly between clamping arms

BARTEL DEVICE
For handling paper rolls—a core pin, hydraulically actuated, enters the top of the roll, and holds roll securely against a curved clamp-plate

HI-LO-STACK
Free lift of more than 5 feet without increasing overall height; more than average tiering height and low clearance height

USE THE COUPON to get Material Handling News ...worth reading

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS

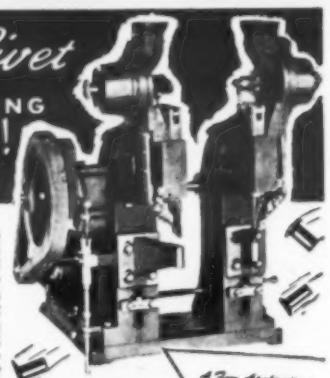
INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 21, MICH.
Please send the items checked ...without obligation ☐ Condensed Catalog ☐ Material Handling News
NAME
FIRM NAME
STREET
CITY ZONE STATE

AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

▲ Mention Item NED-1684 when writing ▲

Chicago Rivet

AUTOMATIC SETTING SLASHES UNIT COSTS!



If your product involves a fastening operation—wood to wood, metal to metal, fabric to fabric, composition to composition, or any combination of these—you can slash unit costs by increasing production volume with high speed Chicago Rivet Automatic Setters and Chicago Rivet tubular or split rivets. Four rivets are automatically fed, inserted and upset at one release of the foot pedal by the quadruple model Chicago Rivet Setter. Single, double and triple setters are also available.

Bench type Double Rivet Setter with Adjustable Riveting Centers

Quick change hoppers, available as extra equipment, enable some models to switch quickly from one size and style rivet to another. Nearly all models clinch grommets, eyelets, staples and Dzus fasteners and insert drive screws—all automatically.

A Few Applications

AIRPLANE PARTS, AUTOMOBILE PARTS, BEAUTY PARLOR EQUIPMENT, BED SPRINGS, BELTS & BICYCLES, CAMERAS, CAN OPENERS, CANVAS GOODS, CARD TABLES, CASH REGISTER, CLOCKS, COFFEE POTS, DOOR LOCKS, ELECTRICAL PARTS, FAN BLADES, FARM IMPLEMENTS, FILING EQUIPMENT, FIREARMS, FOLDING CHAIRS, FURNITURE, GARBAGE CANS, HARNESS, INDUSTRIAL BROOMS, INSTRUMENTS, IRONING BOARDS, KNIVES, LAMPS, LAWN MOWERS, LEATHER GOODS, LOOSE-LEAF BOOKS, LUGGAGE, MILK BOTTLE CRATES, NOVELTIES, POTS, PANS & PAILS, PULLEYS, RADIO PARTS, REFRIGERATORS, RUBBER GOODS, SEWING MACHINES, SHOES & SEATS, STEP LADDERS, STOVES, TELEPHONES, TOASTERS & TOYS, TYPEWRITERS, VENTILATORS, WASHING MACHINES

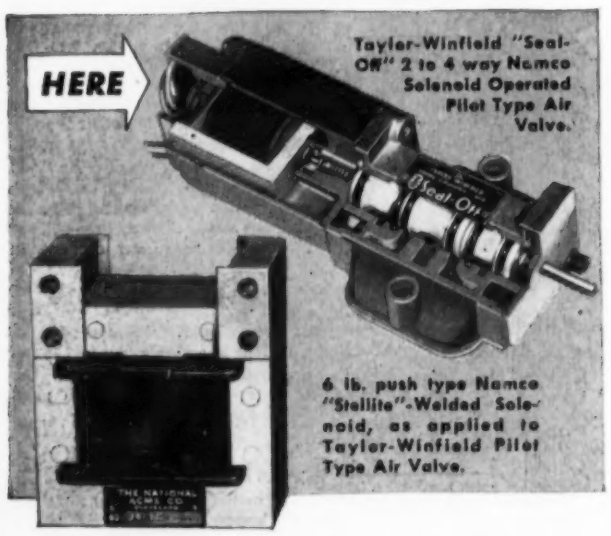
FREE FASTENING CLINIC

If your product is small, send us an unfastened sample. If it's large, send a sub-assembly. We will gladly analyze your fastening problem, recommend the type rivet and Chicago Rivet Automatic Setter needed and estimate production rates that can be set up on the job.

Chicago Rivet CHICAGO RIVET & MACHINE CO.
9606 W. Jackson Blvd., Bellwood, Ill.

▲ Mention Item NED-1685 when writing ▲

FOR FAST, DEPENDABLE SERVICE



NAMCO HEAVY-DUTY SOLENOIDS are the exclusive choice of the TAYLOR-WINFIELD CORPORATION

The Taylor-Winfield "Seal-Off" 2 to 4-Way Namco Solenoid Operated Pilot-Type Air Valves are designed to actuate air operated tools and fixtures on resistance-welding machines, presses and the like and have proved their superiority on a wide variety of high-speed, heavy-duty applications.

Namco "Stellite"-Welded Solenoids were selected for this valve unit only after exhaustive tests in the Taylor-Winfield laboratories at Warren, Ohio. This Company further states, "The low current demand of the Namco Solenoid permits control of the valve by electronic means, thus avoiding time delay of interposed relay."

If you build a product where rugged, mechanical Solenoid construction, dependable fast operation, and low current consumption are important, then you need Namco "Stellite"-Welded Solenoids—engineered for your specific application. We will be glad to have our engineers contact yours.

Complete standard range of Namco "Stellite"-Welded Solenoids are illustrated and tabulated in Engineering Bulletin EM-46A. Ask for your copy.

ELECTRICAL MANUFACTURING DIVISION

NATIONAL ACME CO.
CLEVELAND, OHIO

182 EAST 131ST STREET • CLEVELAND 8, OHIO

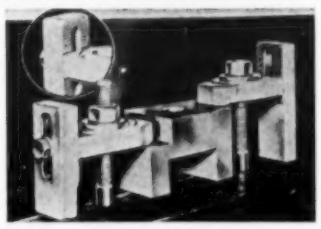
▲ Mention Item NED-1686 when writing ▲

PRESSURE-VACUUM SWITCH
for use with fluid and air systems

Recommended industrial applications of this pressure and vacuum switch include use on indicating and actuating devices for fluid and air pressure and vacuum systems. Switch illustrated can be made to operate either normally open or normally closed, with pressure settings of 0 to 50 psi. Maximum operating pressure can be as high as 200 psi. Unit can be used at temperatures to 300° F and in systems using lubricating oil, air, brake fluids, fuel oils, etc. Switch can be supplied with two insulated terminals or with one terminal grounded. Made by **Fasco Industries, Inc.**, 230 Toppin St., Rochester 2, N. Y.

▲ Mention Item NED-1687 when writing ▲

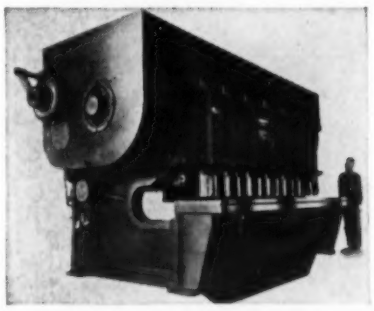
CLAMPING DEVICE
is infinitely adjustable up to 6 in.



Workpieces can be held down securely on tables or faceplates of milling machines, lathes, boring machines and other machine tools by Hamber clamp. Two sets are adequate to hold down heaviest job. Machined serrations on horizontal and upright parts permit them to be locked at any height in 1/16-in. steps. Bottom face of upright is milled to 2-in. radius which allows slight tilting of clamp to adjustments within the 1/16-in. pitch of serrations. Distributed by **Montgomery & Co.**, 60 Murray St., New York 7, N. Y.

▲ Mention Item NED-1688 when writing ▲

LARGE STEEL SHEARS
capacity is 12 ft of 1-in. steel



This Steelweld steel shear has no slides or guides for knife to work in, because it makes use of pivoted-blade cutting principle that has upper blade operating on two heavy pins secured to side frames and traveling in circular path. Micro-Speed knife adjustment permits changing knife clearance to suit various thicknesses of plate. Shear cuts at rate of 25 strokes per minute, has 24-in. throat and incorporates bed with ball-bearing transfers to facilitate movement of steel through knives. Machine is controlled through use of electric foot switch that is connected to shear by cable and can be moved about floor to most convenient position. Made by **Cleveland Crane & Engineering Co.**, Cleveland Tramrail Div., 1143 E. 283rd St., Wickliffe, O.

▲ Mention Item NED-1689 when writing ▲

CUT IDLE TIME COSTS with JEFFERSON SAF-T-LAG Thermal FUSES

Plant costs go on whether machinery is idle or operating. Needless motor stops and expenses can be avoided by using fuses which protect TIME as well as motors.

Precision Thermal Cutout

In Jefferson Saf-T-Lag Thermal Fuses a leaf type trigger spring is rigidly connected to one of the two solid copper elements while the other end, under tension in an upward direction, is held to the opposite copper element by means of solder having a melting point of 280° F.

Since the heat is absorbed until reaching the melting point of the thermal solder connection, which involves a longer heating interval, the result is a time-lag four to five times longer than with the average fuse.

For further details write for Fuse Booklet 482-ST.

JEFFERSON ELECTRIC COMPANY
Bellwood, Illinois

▲ Mention Item NED-1690 when writing ▲

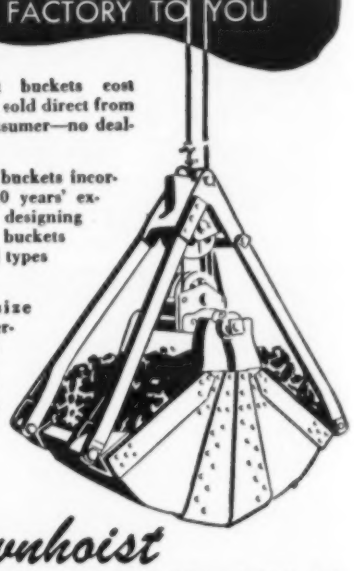
Buy a Better Bucket FOR LESS MONEY Buy Brownhoist

DIRECT FROM FACTORY TO YOU

• Brownhoist buckets cost less—they are sold direct from factory to consumer—no dealer profits.

• Brownhoist buckets incorporate over 50 years' experience in designing and building buckets for handling all types of materials.

• Standard size rope-reeve, power-wheel and link-type Brownhoist buckets are available for immediate shipment.



Brownhoist

Write for illustrated catalog of Brownhoist Buckets

INDUSTRIAL BROWNHOIST CORPORATION
139 Washington Ave., Bay City, Michigan

▲ Mention Item NED-1691 when writing ▲

HALLOWELL Steel Collars

HALLOWELL Solid Steel Collar, functionally proportioned throughout . . . precision-machined so faces run perfectly true . . . are beautifully polished all over . . . yet they cost less than common cast iron collars. 3" bore and smaller are made from Solid Bar Stock. To make sure the collar won't shift on the shaft, they are fitted with the famous UNBRAKO Knurled Point Self-locking Socket Set Screw—the set screw that won't shake loose when once tightened. HALLOWELL . . . a "buy word" in shaft collars . . . available in a full range of sizes for

IMMEDIATE DELIVERY

Write for name and address of your nearest HALLOWELL and UNBRAKO Industrial Distributors.

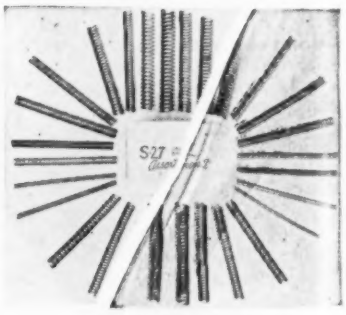
See us at Booths 128 to 138 inclusive, A.S.T.E. Exposition, April 10-14, Convention Hall, Phila.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

▲ Mention Item NED-1692 when writing ▲

SPECIAL DIE SPRING ASSORTMENT

For General Shop Applications and Experimental Departments



Paragon's new S-27 Die Spring Assortment contains 27 surface-stressed die springs, 11 inches long over all, with plain ends. These square wire die springs are built to fit holes from 7/16" to 1-9/16" and fit rods from 1/4" to 15/16". High quality, long life assured. Complete assortment, $18.40. Order today or write for circular.

Also New . . . "Little Stuff" Assortment

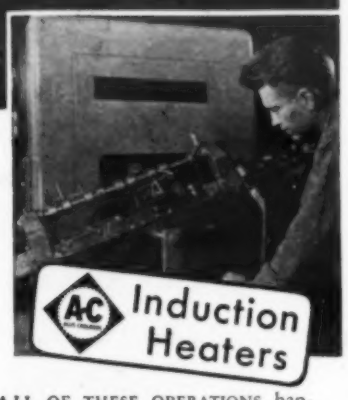
A handy collection of 120 small springs in various sizes and tensions—compression, extension and torsion springs. Not rejects—taken from other runs on regular orders. Only $1, f.o.b. Chicago.

PARAGON SPRING COMPANY
4619 WEST FULLERTON STREET CHICAGO 44, ILLINOIS

▲ Mention Item NED-1693 when writing ▲

Up Output

..ON FOUR DIFFERENT JOBS



1. HARDENING:
An automotive manufacturer hardens eight localized areas of a rocker arm shaft to Rockwell 55C or better, at the rate of one shaft per minute.

2. SOLDERING:
A pressure gage manufacturer tripled production on an air tight seal without affecting temper.

3. BRAZING:
A refrigerator manufacturer brazes eight fittings in less than one minute.

4. ANNEALING:
An automotive manufacturer anneals 2400 brake arms every hour.

ALL OF THESE OPERATIONS handled on the *same* heater *by merely changing work coils!* What jobs can the *versatile* Allis-Chalmers Induction Heater do for *you?* Available in sizes from 1 through 200 kilowatts. Check with your A-C representative or write for bulletin 15B6430. A-2880

ALLIS-CHALMERS, 918A SO. 70 ST. MILWAUKEE, WIS.

ALLIS-CHALMERS

▲ Mention Item **NED-1701** when writing ▲

Here Again...

National Retaining Rings

★ save time!

★ save money!

★ save material!

"Your retaining rings were selected originally since it was obvious that a substantial saving in both material and labor cost would be effected by their use."

The quotation is from a letter of Air Purification Service Inc., Newark 2, New Jersey, whose excellent "Vapor Roll" illustrated above is so widely used in homes, business places, hospitals and other institutions to kill air-borne germs and viruses.

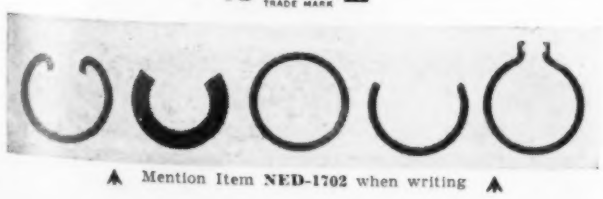
Examine the design of your machines and products. No doubt these inexpensive, efficient artificial shoulders can increase your profits too. Retaining rings have endless uses ranging from drill presses and heavy duty engines to toys, gadgets and small parts of innumerable articles.

It's wasteful to cut down shafts to make shoulders. Redesign to groove smaller shafts and housings and use these high grade steel rings.

Let our engineers consult with you. Send for folders.

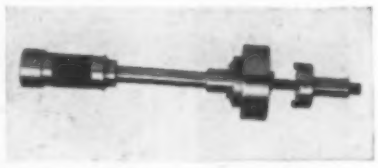
Don't pass up this opportunity to increase your margin and your sales.

THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN
NATIONAL TRADE MARK



▲ Mention Item **NED-1702** when writing ▲

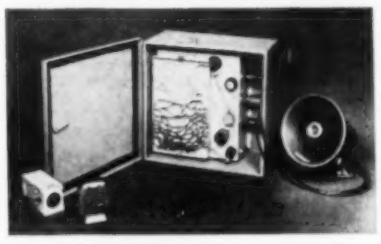
IMPACT WRENCH
creates up to 8000-lb impact



Power of Torkon manually operated impact wrench is easily controlled by operator from very light torque for small size fasteners up to full capacity of tool. It operates in any position, is instantly reversible and is equally efficient for loosening and tightening all types of fasteners. It weighs 5½ lb and will handle any size up to ¾-in. nuts. Since descending weight of flywheel acts as force to hold driving member in slot while torque is being applied, tool is especially effective on slotted flat head fasteners. Badly damaged fasteners of this type can be removed readily. Made by **Torkon Mfg. Co.**, Winona, Minn.

▲ Mention Item **NED-1703** when writing ▲

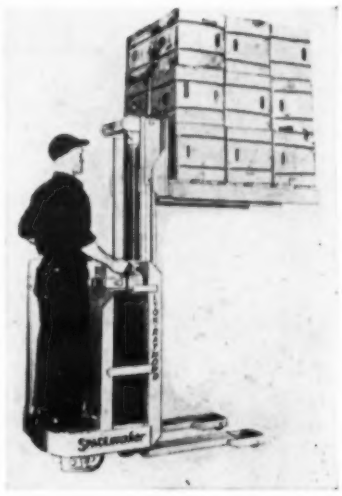
RECORDER-REPRODUCER
broadcasts safety or other messages



Safety, sales or other messages from 5 seconds to 2 minutes in duration can be recorded and reproduced by magnetic tape Saf-T-Vox. Ten individual messages of 10 seconds each can be repeated one at a time as device is started. Unit operates whenever starter mechanism is tripped by electric eye or other control. Device consists of simple mechanism for handling magnetic tape, amplifier, loudspeaker and starting trigger. Messages can be changed simply and quickly. Old message is automatically erased from tape as new message is recorded. Made by **American Allsafe Co.**, 1242 Niagara St., Buffalo 13, N. Y.

▲ Mention Item **NED-1704** when writing ▲

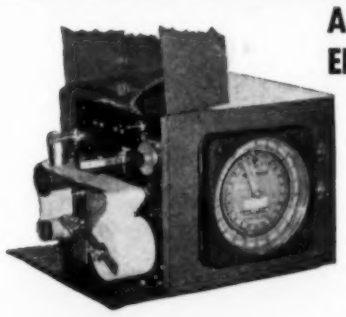
ELECTRIC TIERING TRUCK
maneuvers easily in narrow aisles



Pallet loads measuring 48 x 48 in. can be tiered at right angles from 6-ft aisles by SpaceMaker electric tiering truck. It will also tier 24 x 36-in. box skids at right angles from 5-ft aisle. Three types are obtainable: platform style for tiering skids, fork type for tiering single-face pallets and straddle model for tiering two-faced pallets. Features are light weight, short length and easy maneuverability. Made by **LYON-Raymond Corp.**, 4166 Madison St., Greene, N. Y.

▲ Mention Item **NED-1705** when writing ▲

A RECORDING MECHANICAL COUNTER
Actuated by an Electrical Impulse



it operates on the output of a scaler, photo tube, or other electrical unit . . . permanently records counts on a 2¼" tape . . . automatically resets to zero.

In Radioactive Research it saves precious time by eliminating many hours of manual labor, resulting in greater economy and efficiency.

In industry it maintains a permanent record automatically, recording production and time each hour.

Write for complete information and illustrated circular S C 15

STREETER-AMET COMPANY
AUTOMATIC WEIGHT RECORDERS & SCALES
HIGH SPEED COUNTERS SINCE 1888
4101 Ravenswood Ave., Chicago 13, Illinois

▲ Mention Item **NED-1706** when writing ▲

Deliver CLEAN DRY AIR by this Exclusive Method

No MOVING PARTS
No FILTERS TO REPLACE
No GUESSWORK

CMD TEXTITE AIR SEPARATORS

The accurately rated capacities of CMD Textite Air Separators assure ample C.F.M. volume to clean air and thoroughly dry it. Not mainliners; should be installed at or near point of use. Four sizes from 25 C.F.M. to 250 C.F.M. inclusive. For bulletins and complete technical data

Write to Dept. 3NED

CHICAGO MANUFACTURING & DISTRIBUTING CO.
1928 W. 46th St., Chicago 9, Ill.

▲ Mention Item **NED-1707** when writing ▲

WHEN YOU USE
AMERICAN WELDING
"Controlled Technique"
your products have these advantages

1. Insured Conformity to Specifications
2. Lower Cost
3. Closer Tolerances
4. Less Machining
5. Prompt Delivery

If you use rings, bands, assemblies, weldments, or any other products that lend themselves to the welding process of manufacture, it will pay you to specify fabrication by American Welding "Controlled Technique". Skilled designers and engineers will adapt this experience to your requirements without obligation.

SEND FOR 16-PAGE CATALOG

THE AMERICAN WELDING & MANUFACTURING CO.
170 DIETZ ROAD • WARREN, OHIO

▲ Mention Item **NED-1708** when writing ▲

MAKES BASEMENTS DRY!

Leaks in concrete walls can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a plaster coat for sealing off water and dampness. Converts wet basements into dry useful space. Used in elevator pits, tunnels, dams, tanks, retaining walls. In reconstruction work, broken pillars and beams can be quickly reshaped with FLEXTITE.

MAIL COUPON for FREE TRIAL OFFER

FLEXTITE

FLEXROCK COMPANY
3603-F Filbert St., Philadelphia 4, Pa.
Offices in Principal Cities
Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN—no obligation.
Name .....
Company .....
Address .....

▲ Mention Item **NED-1709** when writing ▲

Air Operated
ROTARY WORK FEEDER

Deftly holds and delivers small parts to drill, tap, swage, stake, etc. Stations accurate to .002". Guaranteed against over-travel or "skipping". Indexes as slow or fast as you like, up to 10,000 per hour. Compact and sturdy, easy to tool and hook up.

Standard dial plate 10"; available in 12". For a new job, simply tool up a new dial. Readily combines with "MEAD-MATIC" Timer, Air Hammer, Air Press, Drill presses, etc.—to make almost completely automatic machine—operator merely loads. Write for full details.

MEAD
SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. NA-30, CHICAGO 41, ILL.

Mention Item NED-1710 when writing

why CRANE DIAPHRAGM VALVE DESIGN is superior

WORKING PRESSURES:
150 pounds water, oil, air, or gas; ½ through 4-in. sizes
125 Pounds water, oil, air, or gas; 6-in. size only
180 Deg. F. max. temp.; all sizes

LONGER DIAPHRAGM SERVICE LIFE—Diaphragm—used *only* to seal the bonnet—is not subject to cutting, crushing, and rapid wear.

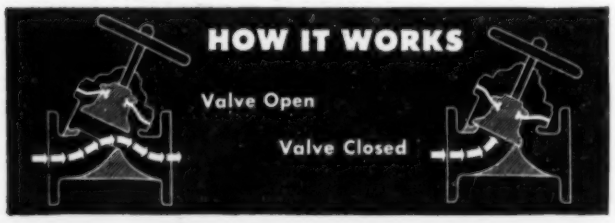
POSITIVE SHUT-OFF in case of diaphragm failure—*an exclusive Crane safety feature.*

ACCURATE SEATING—Separate flat face disc gives tight closure—independently of diaphragm.

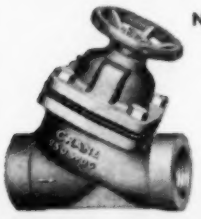
GREATER FLOW CAPACITY—Y-pattern body gives closer approximation to straight-line flow.

EASIER OPERATION—Less torque—fewer turns—needed to operate valves, especially in larger sizes.

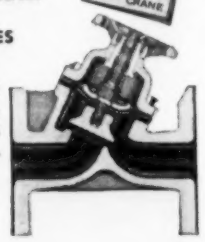
PLAIN IRON OR NEOPRENE-LINED—Unlined valves recommended for all common services; neoprene-lined valves for fluids corrosive to iron but non-active chemically upon neoprene.



Send For This New Circular—Includes all essential specification data, service recommendations, prices.
WRITE FOR CIRCULAR AD-1761.
CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas



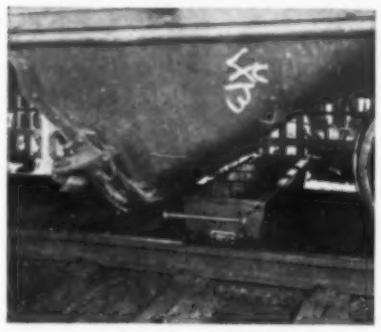
NOW AVAILABLE IN SIZES UP TO 6-INCHES
No. 1615 Neoprene-lined, Flanged ends ½ to 6-in.
No. 1610 Screwed ends ½ to 2 in.



EVERYTHING FOR EVERY PIPING SYSTEM
CRANE
VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

Mention Item NED-1711 when writing

CAR HOPPER THAWER
supplies heat over width of pocket



Recommended for thawing frozen coal or similar material in steel railroad hopper cars, this improved De-Icer thawer is reinforced steel trough that snaps onto rails and is easily handled by one man. Fuel consumption is low, and heat is applied over entire width of car pocket to assure uniform flow of material. Made by **J. C. Corrigan Inc.**, 41 E. Norwood St., Boston 22, Mass.

Mention Item NED-1712 when writing

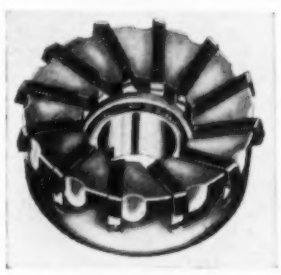
AIR CONDITIONERS
equipped with humidity balancers

Improved Yorkaire models 352 and 552 packaged air conditioning units incorporate Atmostat humidity balancer which supplies additional air drying capacity for extra moisture removal on damp muggy days. Hermetic cooling system employs V-mounted coils of staggered tube and corrugated fin design. Under normal conditions refrigerant flows through both sides of V-coil. When humidity is excessive, refrigerant is diverted by Atmostat switch to one side of coil where it is concentrated on removing excessive moisture from air without reducing temperature below comfort level.

Illustrated model 352 for medium-size applications uses 3-hp hermetic compressor motor and 1/3-hp fan motor which operate on 60-cycle ac. Four-way directional dicharge grilles permit directed air flow to suit size and shape of conditioned spaces. Outside make up air connection is installed at rear or either side of unit. Twin oversize filters are easily replaceable. Made by **York Corp.**, 111 Roosevelt Ave., York, Pa.

Mention Item NED-1713 when writing

MILLING CUTTER
employs solid carbide insert blades



Developed for milling cast iron, this solid carbide insert blade cutter can be obtained in sizes ranging from 6-in. diameter with 12 teeth to 14-in. diameter with 28 teeth. Locking wedge is placed below blade and actuated by set screw which moves wedge in for locking and out for blade removal. This method of locking permits large number of blades to be incorporated in given size of cutter and allows blades to be used down to ½-in. length. Blades can also be moved forward in direction of greatest wear. Made by **Super Tool Co.**, 21640 Hoover Rd., Detroit 13, Mich.

Mention Item NED-1714 when writing

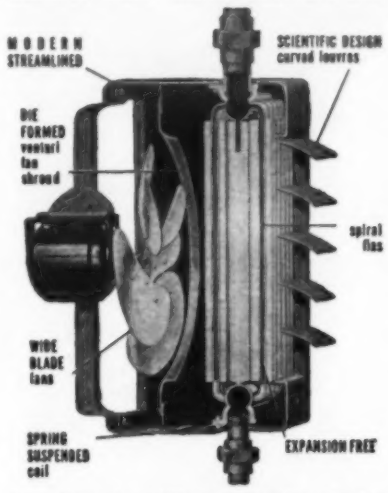
ELECTRICAL INSTRUMENTS
are shock and vibration resistant

Unaffected by shock, severe vibration and tumble testing, Ruggedized line of electrical panel instruments utilizes redesigned basic D'Arsonval type DC movement. Shock mount successfully attenuates high amplitude low frequency shock forces, and low mass reduces magnitude of forces developed by shock. Revised frame structure secures core, and fastenings prevent magnet fracture, increase shear resistance and minimize whipping and collision between dial and pointer assembly. High torque-to-weight ratios permit large radius pivots and reduce unit loading of bearings. Laminated aluminum alloy tubing pointer utilizes positive lock on balance cross of moving system and permits electrical overloads without pointer damage. Hermetic sealing gives complete weather sealing in any climate, and mounting ring distributes forces set up under high shock. Made by **Marion Electrical Instrument Co.**, Manchester, N. H.

Mention Item NED-1715 when writing

UNIT HEATER . . sets new standard of quietness and heating efficiency

McCord Unit Heaters are a time proven product embodying design based on years of experience in the heat transfer field. These units are not only rugged in design and guaranteed for use on #150 p.s.i. steam pressure but are made attractive in appearance. Two outstanding features appeal to maintenance engineers—we use standard motors with standard bases which quickly permits the use of replacement motors should a motor fail in service—the heating element is made of individual spiral fin tubes which are free to expand independently without putting a strain on the brazed joints. The entire heating unit is spring suspended and floats free in the casing, eliminating rigid connections. Improved type fan blades deliver large volumes of air with minimum air noise and vibration which makes these units suitable for office and store use. A complete line of vertical projection type unit heaters and blast coils are also available. Catalog on request or write for new folder. "Instructions for Maintenance of Unit Heaters." **McCord Corporation,** Detroit, Mich. *Advt.*



Mention Item NED-1716 when writing

For Positive Filtration

on all industrial oils, solvents and water

With an Alsop "Disc-Pak" Filter on your line, all of the liquid will be as clean and as sparkling as you specify. The enormous filter area yet small floor space requirement, the self-sealing principle, the elimination of complicated parts and the ease with which used cartridge elements can be removed, guarantees positive filtration with minimum get-ready time and operating costs.

The replaceable-cartridge type elements are available in eight different grades from coarse, fast flowing to ultra-fine grades to remove particles in the submicron stage. "Disc Pak" Filters are made in full range of sizes and capacities up to 3600 g.p.h.
Send for this Free Catalogue:
Alsop Engineering Corporation
503 East Road, Milldale, Conn.

ALSOP ENGINEERING CORPORATION
Filters, Filter Discs, Pumps, Tanks, Mixers, Agitators

Mention Item NED-1717 when writing

DO YOU KNOW?

—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT
. . . add attraction—safety—service?

Ask **DIALCO**
—what lamp to use
—how to use it
—what it will do
—what it will cost

THIS MAY BE THE ONE
Designed for low cost NE-51 Neon
• Built-in Resistor • Patented
• U/L Listed • Rugged
Catalogue Number 521308 — 997 for 110 or 220 volts.

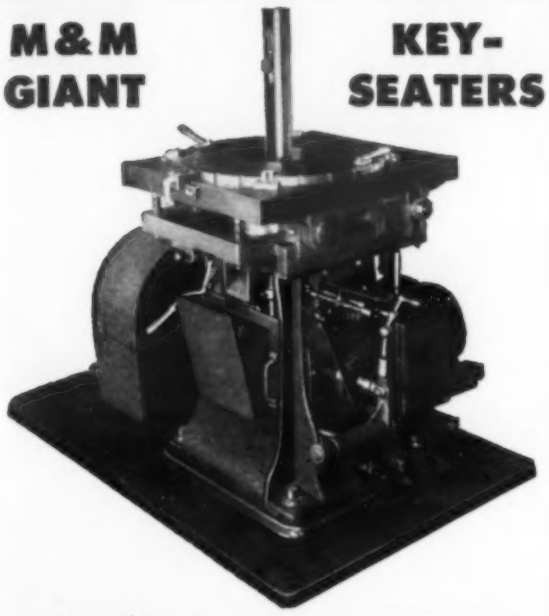
SAMPLES for design purpose NO CHARGE

NEW! Write for the "HANDBOOK OF PILOT LIGHTS."
Write us on your design problems.

Foremost Manufacturer of Pilot Lights
The DIAL LIGHT COMPANY of AMERICA
900 BROADWAY, NEW YORK 3, N. Y.

Mention Item NED-1718 when writing

M&M GIANT KEY-SEATERS



Giant Keyseaters, built in various sizes, speedily and accurately cut keyways or splines in pulleys, gears, and other machine parts. Special fixtures and cutters are available for those "hard-to-do" internal finishing operations which cannot be efficiently accomplished otherwise. Send us your problems.

MITTS & MERRILL

1000 SOUTH WATER STREET • SAGINAW, MICHIGAN

▲ Mention Item NED-1719 when writing ▲

Shredded Paper

IS THE IDEAL PACKING MATERIAL

produce it yourself for . . .

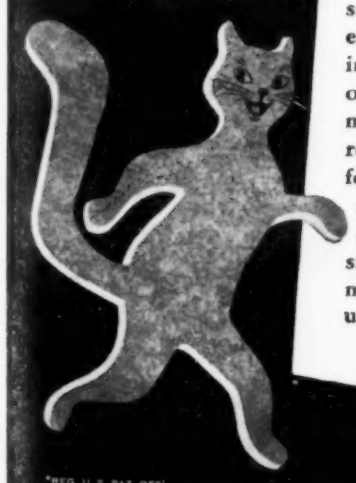
(1) Real dollar & cents savings
(2) Minimum inventories
(3) Substantial space savings
(4) Dependable supply

Test a "Silver" paper shredder in your own shop without obligation—Get complete details by writing *today* to:

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

▲ Mention Item NED-1720 when writing ▲

Sssh... FOR NOISE CONTROL SPECIFY **TUFFLEX!***



Do you have an unusual sound deadening or noise quieting problem? Then you should investigate Tufflex—the resilient, felted wood fiber material that cuts to any size or shape. Highly efficient in sound absorption, Tufflex also provides thermal insulation. Amazingly resilient, Tufflex, too, cushions impact. For a wide variety of uses, Tufflex is made in moisture resistant, fire retardant and moldproof form—and in blankets or sheets of various thicknesses, widths and densities. For scientific information about Tufflex, write us—

*REG. U. S. PAT. OFF.

WOOD CONVERSION COMPANY

DEPT. 127-30 FIRST NATIONAL BANK BLDG., ST. PAUL I, MINNESOTA

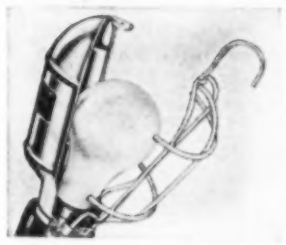
▲ Mention Item NED-1721 when writing ▲

TORQUE CALCULATOR solves power drive problems

This pocket-size slide rule is usable for calculating torque loads on flexible shaft equipment. It also indicates size of shaft which performs most efficiently at any given speed within given radius. User sets required speed in revolutions per minute on slide. Torque is then indicated in pound-inches opposite horsepower transmitted. Calculator can be obtained free by writing on company letterhead. Made by **Stow Mfg. Co.**, 26 Shear St., Binghamton, N. Y.

▲ Mention Item NED-1722 when writing ▲

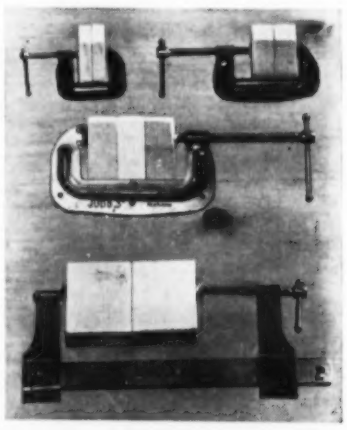
PORTABLE TROUBLE LIGHT magnetic base simplifies use



This Magic Lite portable trouble light incorporates several features including permanent Alnico VI magnetic base which permits it to be attached to any ferrous base, guard fastener that allows bulbs to be changed without removing clamps or screws, and ball swivel joint which permits light to be turned in all directions. Lamp guard is cadmium-plated steel and has nonglare reflector. Lamp socket, magnetic base and cord are neoprene covered, and light can be be obtained with Underwriters' Laboratories approved push-through safety switch or with extra side outlet. It is furnished with either 25 or 50-ft heavy duty cord. Made by **Lincoln Park Industries, Inc.**, Standard Portable Cord Div., 1300 E. Second St., Jamestown, N. Y.

▲ Mention Item NED-1723 when writing ▲

WROUGHT STEEL C-CLAMPS withstand pressures up to 1200 lb



Three models at top of illustration are 1, 2 and 3-in. sizes of wrought steel C-clamps which feature exceptional strength and rigidity. Body of clamp consists of longitudinal ridge pressed into two steel pieces and spot welded together back-to-back. Bar and screw are of polished steel.

Also available is sliding jaw clamp illustrated at bottom. It permits instant adjustment on all work up to 6-in. size by moving wrought steel jaw to proper spot on steel bar and tightening adjustment screw. Having milled edges to grip moving jaw securely, 1-in. wide steel bar will withstand great pressure. Made by **H. L. Judd Co.**, 87-V Chambers St., New York 7, N. Y.

▲ Mention Item NED-1724 when writing ▲

CLEVELAND PNEUMATIC VIBRATORS

POWERFUL VIBRATION SPEEDS FLOW OF BULK MATERIALS FROM BINS, HOPPERS, AND CHUTES

Rapid, hammer-like blows from CLEVELAND Type "F" vibrators assure a steady flow of material from bins, hoppers, and chutes of all types. These powerful vibrators are recommended for moving bulk sand, coal, lime, ore, cinders, slag, steel chips, cement, soda ash, etc.

Low-cost, dependable Type "F" air vibrators are available from stock in six standard sizes for attachment to bins and hoppers having capacities from one to several hundred tons.

CLEVELAND Type "F" vibrators operate at maximum efficiency regardless of mounting position. They are designed for continuous or intermittent operation and engineered for long service life.

WRITE FOR COMPLETE CATALOG AND PRICE LIST.

CLEVELAND VIBRATOR CO.
2745 CLINTON AVENUE
CLEVELAND 13, OHIO

▲ Mention Item NED-1725 when writing ▲

Cut Air-Hose Costs — Prevent Accidents
Speed-up Production — Save Time . . .

with **CHAMPION AIR-HOSE REELS**
FOR CEILINGS—WALLS AND FLOORS

Champion Air-Hose Reels more than pay for themselves in the hose they SAVE. Champion Reels keep hose *off-the-floor*, eliminate the danger of tripping. Air-hose is always convenient to operator . . . a time saver that speeds-up production. Stays put at desired length—a slight pull rewinds hose at governed speed. Fully enclosed reel housing with swivel or stationary mounting. Furnished with 30 or 35 foot hose. Write TODAY for complete data sheet.

2616-R

CHAMPION PNEUMATIC MACHINERY CO.
837 NORTH PLEASANT STREET • PRINCETON, ILLINOIS

▲ Mention Item NED-1726 when writing ▲

ACTUAL CHECK PROVES

No other Copying Process offers you the

ECONOMY *of* OZALID!

HERE'S PROOF!

Check the money-saving versatility of Ozalid against the four other most popular copying methods.

	OZALID	Method A	Method B	Method C	Method D
Prints ready for immediate use	✓	✓	✓		✓
No size restrictions	✓			✓	
No special plates, stencils, or inks	✓			✓	
No need to make negative	✓	✓	✓		✓
Additional copies immediately available	✓				
Easily makes duplicate masters	✓				

WHAT IS OZALID?

• Ozalid is a *speedy copying process* that uses sensitized paper to reproduce anything typed, drawn or written. You get perfect copies of letters, records, reports, photographs, files, drawings—anything.*

WHAT ARE THE ADVANTAGES OF THE OZALID PROCESS?

• **No size restrictions**—Ozalid copies can be made in *any* size, in sheets or continuous rolls.

• Copying errors eliminated. No *check-back* to original.

• Changes are easily made. Simply add new material to create a "composite master". No need to re-create an entire piece.

OZALID PAPER IS UNEQUALLED FOR QUALITY, TOO!

• For years, Ozalid has been established as the "Standard of Quality" among sensitized papers.

• Ozalid's "speed" is the same, month in and month out—stepping up production.

• Controlled product quality gives more prints at lower labor cost.

• Longer shelf-life—means less waste.

**If light won't shine through, an inexpensive intermediary step is taken.*

OZALID, Dept. I 1, Johnson City, New York
Gentlemen: Please send free illustrated booklet that fully explains the Ozalid process.

Name.....
Company.....
Address.....

Cut Copying Costs...Use OZALID!

A Division of General Aniline & Film Corporation. "From Research to Reality"

▲ Mention Item NED-1727 when writing ▲

TRY a gallon at our risk

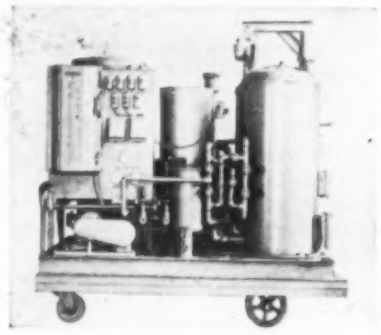
PROTECT-O-METAL NO. 2
G. W. Smith & Sons, Inc.
5407 Kemp Road, Dayton 3, Ohio
OK. Send me a trial gallon of PROTECT-O-METAL NO. 2 and a bill for $3.15. I understand you will cancel the invoice if I'm not entirely satisfied.
Name
Firm
Address

GET better, cleaner welds for less money
SAVE up to 85% of weld cleaning costs

Brush or spray Protect-O-Metal No. 2 on weld seam and on adjacent metal . . weld . . . then simply wipe off spatter with a dry cloth. Don't waste time, manpower, or profits cleaning up welds with air chisels, wire brushing or sand blasting. Protect-O-Metal No. 2 is the *one* smokeless, odorless, spatter proofing compound. Costs about 1/10c per foot of weld, saves up to three times its cost.

Mention Item NED-1728 when writing

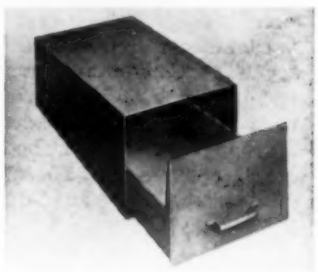
PURIFICATION UNIT
cleans and restores insulating oils



Acidity, moisture and sludge are eliminated and dielectric strength of insulating oils restored by Purivac purification system. It also reduces deterioration of fabric insulation and prevents excessive build-up of core moisture. System consists of dual purifiers, heat exchanger, dehydrating and degasifying unit, electrical control panel, pumps and motors. It is fully automatic in operation and is mounted on dolly for portability. Dual purification units can be operated separately, in series or in parallel; and operations can be carried out in field or at central station while transformer is in service. Made by **Honan-Crane Corp.**, 960 Sixth St., Lebanon, Ind.

Mention Item NED-1731 when writing

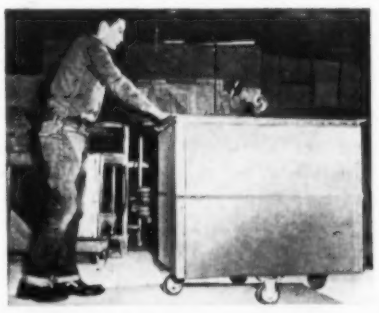
STEEL TRANSFER FILE
has ball-bearing action drawers



Constructed of 24-gage steel with heavy band-iron welded around open end for reinforcement, this transfer case is equipped with ¾-in. diameter ball bearings which provide smooth easy drawer action. Cases can be stacked 12 high and can carry 60 lb per drawer without binding or sticking. Provision for off-the-floor storage is made through use of 3-in. high welded bases, and spot welded angle-type follower blocks for partially filled drawers can be installed simply and removed without disturbing contents. Cases are available in 14 sizes to cover any filing and record storage requirements such as microfilm, tabulating cards, checks and documents. Made by **National Box & Can Co.**, 4132 Broadway, Cleveland 27, O.

Mention Item NED-1732 when writing

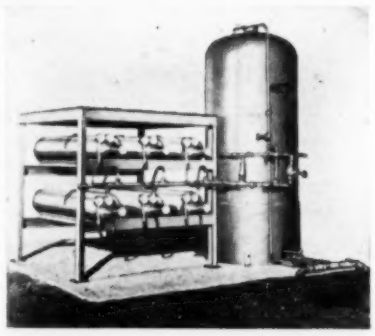
BOX-TYPE TRUCK
is of all-aluminum construction



This box-type truck combines light weight with ample ruggedness, measures 24 x 48 x 33 in. and weighs 95 lb. Its frame is high tensile strength aluminum alloy angles, and panels are aluminum alloy sheet flush-riveted so that all inside surfaces are smooth. Truck is nonmagnetic and nonsparking and will not rust. For applications such as food industry, truck can be washed or steam cleaned. Sizes are available to meet individual requirements, and trucks can be obtained with one or more sides hinged or completely collapsible for easy stacking. Made by **Tobey Mfg. Corp.**, 1222 El Segundo Blvd., El Segundo, Calif.

Mention Item NED-1733 when writing

FIRE FIGHTING SYSTEM
has 500, 1000 and 2000-lb capacity



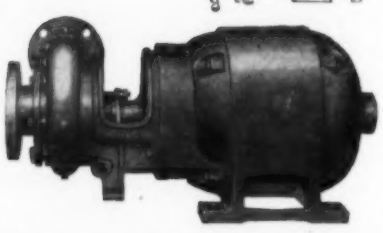
Of stationary dry chemical type, this fire fighting unit is designed to protect wide areas where minimum of manpower is available, such as gasoline bulk plants, gasoline storage areas, refineries, railroad yards and large chemical plants. One person can operate stationary unit and fight fire in any portion of area several acres in size. Unit consists of centrally located steel tank containing dry chemical and nitrogen cylinders for pressurizing tank. Piping runs underground from tank to one or more hose houses where 1-in. chemical hose is coiled. Hose can be obtained in 50, 100 and 150-ft lengths. Rate of flow of dry chemical is 450 lb per minute, and effective range is about 35 ft. Made by **Ansul Chemical Co.**, Fire Extinguisher Div., 1 Stanton St., Marinette, Wis.

Mention Item NED-1734 when writing

FOR A LOT OF PUMP

IN A SMALL PACKAGE

GOULDS "Close-cupld"

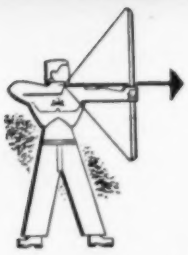


This efficient, advanced design pump gives the operating man many advantages that eliminate liquid transfer problems.
The pump and motor are a compact unit. The single shaft maintains perfect alignment and the unit is vibration free. You don't need a bedplate.
All you do is set the "Close-Cupld" in place, connect it up and turn on the current.
Sizes and Capacities:
We make the "Close-Cupld" in 17 sizes with capacities up to 2000 G.P.M., heads up to 400 ft. depending on capacities.
Send for a free copy of Bulletin 701.1 today. It gives you complete data on Goulds "Close-Cupld" pumps.

Goulds PUMPS INC. Seneca Falls New York

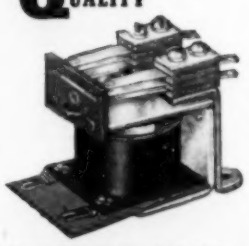
Mention Item NED-1729 when writing

GUARDIAN G Controls



SURE TO HIT...
PRICE
DELIVERY
QUALITY

Get ahead of Delivery—Quality—and Price with MORE THAN 15,000 STANDARD GUARDIAN CONTROL PARTS *IN STOCK* to speed last-minute requirements. For example, the Guardian Series 600-U Relay with interchangeable coils and contact assemblies accommodates various voltages, typifies our *flexibility*. Compact, low priced, Series 600-U replaces larger, more costly relays for heat control, home laundries, business machines and dozens of applications.



Guardian Series 600-U Relay Underwriters Approved

Write—Send blueprint or drawing for specific recommendations, *cost-free*.

GUARDIAN ELECTRIC
1626-C W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

Mention Item NED-1730 when writing

Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

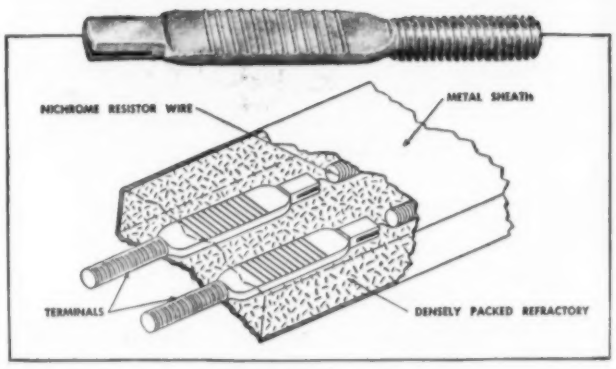
BECAUSE it sweeps faster and cleaner, and outlasts ordinary brushes 3 to 1, Speed Sweep has become the No. 1 sweeping tool of American Industry — used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

Write for styles, sizes and prices.

MD MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

Mention Item NED-1735 when writing

HOT ASSIGNMENT *for this* PROGRESSIVE *fastener*



Edwin L. Wiegand Company uses this terminal pin on their versatile Chromalox seamless blade-type immersion heaters, which operate as high as 750°F. It is one of many special fasteners made by Progressive.

The design provides for electrical clearance between the pin and the metal heating blade casing — for secure fastening of the pin in the refractory — and for attaching electrical wiring connections.

Progressive is equipped to handle special fastener production with speed, precision and economy. Do what many leading manufacturers do — IF IT'S SPECIAL, see PROGRESSIVE.

WRITE FOR OUR CATALOG
IT MAY SAVE YOU MONEY

Other typical PROGRESSIVE *"Specials"*

QUALITY PROMCO BRAND
THE PROGRESSIVE MANUFACTURING COMPANY
46 NORWOOD ST., TORRINGTON, CONN.
SALES OFFICES: SAN FRANCISCO, LOS ANGELES, PORTLAND, DETROIT, PHILADELPHIA, CLEVELAND, SEATTLE, BOSTON, SYRACUSE, ST. LOUIS, CHICAGO.

Mention Item NED-1736 when writing

THOMAS TRUCK at Keokuk

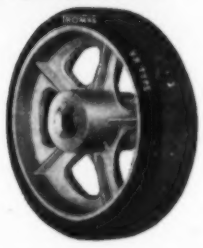
Heavy Duty TRUCK CASTERS

- Double Ball Bearing Swivel
- Smooth face metal or Rubber Wheels
- Bolt and Sleeve Axle
- Hardened Steel Balls

Easy spinning and rolling features these husky Thomas truck casters. Side thrust is carried by the small row of balls against the solid part of top plate. All castings of strong semi-steel, designed for floor truck service. Ribbed forks. Grease gun fittings. Write for catalog.

THOMAS TRUCK at Keokuk

Rubber Wheels for FLOOR TRUCKS



- Easy rolling tires — resilient tread
- Prevent floor damage
- Molded-on type—long life
- Strong one-piece wheel casting

Replace worn, rough floor-damaging wheels with soft, resilient rubber wheels that roll quietly and easily over all kinds of floors, saving time and effort, reducing breakage. Write for catalog.

Representatives in all principal cities.

Write for Trailer Catalog

THOMAS TRUCK & CASTER CO.

559 MISSISSIPPI RIVER, KEOKUK, IOWA

▲ Mention Item NED-1737 when writing ▲

INCREASE EQUIPMENT LIFE
DEVELOP BETTER PRODUCTS
with a G-E recording vibrometer

It locates harmful wearing vibration in shafts, bearings, gear trains, etc. It indicates the need for balancing on rotating machines. Employed by designers and users of machinery to insure quality and long service.

*Gives permanent record of vibration characteristics.
*Records amplitude and frequency.
*Weighs only 7 pounds.
*Only 8 inches long.
*Easy to use.
*Window for viewing stylus motion.

Write today for details contained in GEC-310 and see how the G-E Recording Vibrometer gives an instant permanent record of vibration. *Apparatus Dept., General Electric Co., Schenectady, N. Y.*

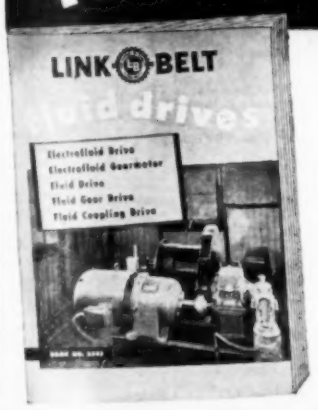
*Mfrs. suggested retail price

GENERAL ELECTRIC

687-25

▲ Mention Item NED-1738 when writing ▲

Here's How LINK-BELT fluid drives



INCREASE PRODUCTION
REDUCE POWER COSTS
PROTECT MOTORS AND MACHINERY
ELIMINATE BREAKDOWNS

This new book describes Link-Belt Fluid Drives in full detail, explains how you can apply them to save power on starting loads, use smaller motors, protect motors and driven machines against shock-loads, increase productivity of equipment.

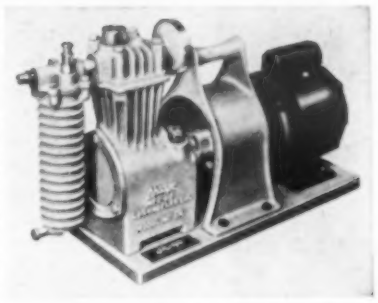
WRITE OUR NEAREST OFFICE FOR BOOK NO. 2385

LINK-BELT COMPANY

Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities. 11,754

▲ Mention Item NED-1739 when writing ▲

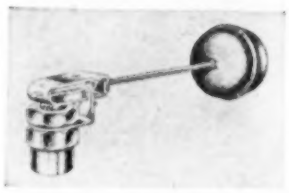
PORTABLE AIR COMPRESSOR has 5.31-cfm air displacement



Powered by ½-hp General Electric motor, this model 5N portable air compressor develops working pressure of 50 psi. It is recommended for industrial maintenance where its use with cup gun or material container will assure fast production. Design features include closely honed cylinder in gray cast iron, lightweight automotive type piston fitted with three rings, counterbalanced crankshaft mounted in double suspension of New Departure ball bearings and handle located for balance and ease of carrying. Made by **Sharpe Mfg. Co.**, 1226-A Wall St., Los Angeles 15, Calif.

▲ Mention Item NED-1740 when writing ▲

AUTOMATIC BALL FLOAT VALVE glass ball controls pressures



Glass ball on Neoprene rubber seat utilized in Blue Boy automatic valve is nonsticking and unaffected by variations in supply pressure. Simplicity of design permits 360 degrees of float rotation and easy cleaning. All parts are corrosion resistant. Valve is suitable for ½-in. supply pipe connector and is furnished with male or female pipe threads. Made by **Cripe Electric & Machine Co.**, Dept. NE-20, Walton, Ind.

▲ Mention Item NED-1741 when writing ▲

BUCKET ELEVATOR CHAINS made of heat treated alloy steel

Projecting guards which deflect material from chain joints and slotted boss ends which prevent pin from rotating and protect cotter pin from wear are among features of Beaucalloy bucket elevator chains. Heat treated alloy steel connecting pins have centerless ground finish that minimizes friction. Large size single link barrel cast integrally with side bars is thicker on side which receives wear from connecting pin and wheel. Attachment device permits use of either Beaumont dovetail lock buckets or conventional type A buckets.

Since links fold into place on sprocket or traction wheel and maintain almost steady contact throughout rotation, they minimize friction and wear on inside and outside surfaces of link barrel. Made by **Beaumont Birch Co.**, 1508 Race St., Philadelphia 2, Pa.

▲ Mention Item NED-1742 when writing ▲

For High Production on all TAPPING jobs

The assembled parts of your product will give enduring, trouble-free service if tolerances of threaded holes and fasteners are held to close limits. Thread all holes accurately with HY-PRO precision taps to insure tighter, stronger, vibration-resisting fastenings.

PROMPT DELIVERY. Many special as well as standard taps in stock.

Our Engineering Staff will gladly study your tapping problems, and make recommendations.

HY-PRO TOOL CO.

Call Your Distributor New Bedford, Mass. U.S.A.

A Subsidiary of Continental Screw Company

▲ Mention Item NED-1743 when writing ▲

Change is easiest with Federal Noark Motor Starter

IT'S ALMOST "PRESTO!" replacing a coil in Federal Noark Motor Starters. Only three quick operations . . . Besides that, the one moving unit in Noark *rides on ball bearings.* Turn of a knob gives automatic or manual reset instantly . . . Write for copies of "Federalog" and "Simplified Motor Control." Federal Electric Products Co., 50 Paris St., Newark 5, N. J.

FEDERAL NOARK MOTOR STARTER

SALES OFFICES IN PRINCIPAL CITIES

▲ Mention Item NED-1744 when writing ▲

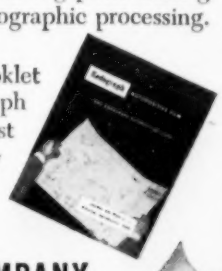
Kodagraph Autopositive Film

...a new intermediate material that combines a high-contrast photographic emulsion and Kodak's famous safety film base.

- It gives you faster printing intermediates . . . of highest quality . . . from all types of originals. And they're positive copies—produced directly without a negative step.
- It intensifies weak lines . . . keeps heavy detail from "filling in". . . giving you "masters" which produce more legible blueprints and direct-process prints.
- It is matte surfaced on both sides . . . can be written on with pencil or pen.
- It is highly translucent—prints can be read from either side.
- It produces sharp reproducible "masters" from illustrations and text on opaque stock . . . enabling you to save time and dollars in preparing data sheets, parts lists, etc.

Learn in detail how you, or your local blueprinter, can turn out these new photographic intermediates quickly, economically—with existing print-making equipment and standard photographic processing.

Write today for this free booklet giving all the facts on Kodagraph Autopositive Film – the latest addition to the revolutionary line of Kodagraph reproduction materials.

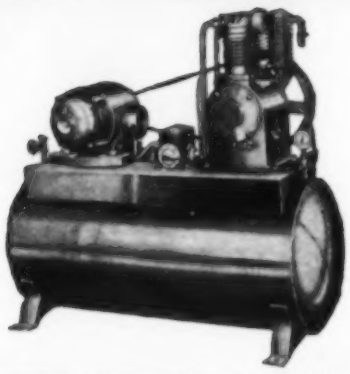


EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE-MARK

▲ Mention Item NED-1745 when writing ▲

SCHRAMM
AIR COMPRESSORS

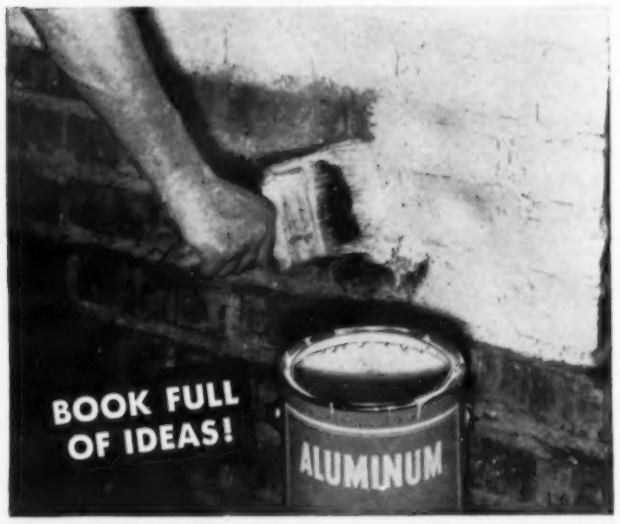


MOTOR DRIVEN COMPRESSOR OR HORIZONTAL TANK

SCHRAMM small industrial compressors are built in sizes ranging from ½ to 5 h.p., single and two stage sizes. Larger size units available in displacements up to 600 cubic feet. Write for Bulletin GC-48.

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

▲ Mention Item NED-1748 when writing ▲



HOW TO BRIGHTEN DARK ROOMS WITH A SINGLE COAT*

HERE'S A NEW FREE BOOK that tells how! Gives pages of facts on the improved reflectivity, better quality of new aluminum paints now available. Alcoa does not make aluminum paint, but we have prepared this book to help you buy and apply it right.

If you've been buying paint without the information this book contains; if you've never used the superlative new aluminum paints it describes—your paint knowledge is out of date. New pigment and vehicle developments have revolutionized aluminum paint performance. This book tells how to get the best and apply it for greatest service. Includes coverage tables, facts on correct types of ready-mixed aluminum paints for metal, masonry, or wood surfaces, inside or out—and for heated surfaces.

This important buying and application information will be sent by return mail. Send coupon below.

ALUMINUM COMPANY OF AMERICA
Paint Service Bureau, 1735C Gulf Bldg.,
Pittsburgh 19, Pennsylvania
Please send me free copy of *"painting with aluminum"*
Name (Please print) _____
Address _____
City _____ State _____

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.
*The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

ALCOA ALUMINUM

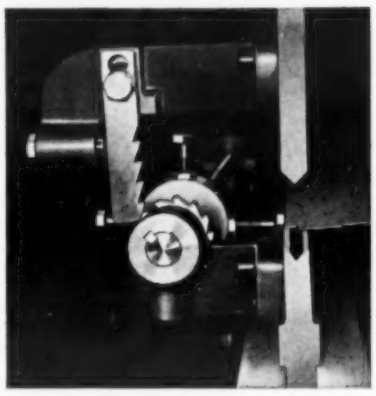
▲ Mention Item NED-1749 when writing ▲

DISHED RING HEATER
designed for round tank bottoms

Suitable for use on small dairy tanks, water tanks, milk pasteurizers, coffee urns, and water distillation units, this Chromalox dished ring heater can be clamped to any concave or convex surface. Standard units can be obtained in either 115 or 230-v models with wattage ratings up to 1 kw. Terminals can be placed inside or outside curvature to facilitate wiring. Nickel-chromium resistor wires are completely imbedded in zircon insulating material and entire unit encased in rust-resistant steel sheath to retain its original shape at high temperatures. Made by **Edwin L. Wiegand Co.**, 7509 Thomas Blvd., Pittsburgh 8, Pa.

▲ Mention Item NED-1750 when writing ▲

AUTOMATIC PRESS BRAKE GAGE
is of self-indexing rotary type



This automatic Rodex gage for press brakes allows production of as many as four different bends in piece of metal before it leaves operator's hands. Gage consists of rack and gear assembly which automatically rotates adjustable gage stops into position and holds them securely until bend has been made. Rack that is attached directly to punch engages gears and on upstroke brings stops to position required for bend. Provision is made for disengaging rack from gears to permit use of gage as single-stop unit. Made by **General Gas Light Co.**, 202-3 N. Park St., Kalamazoo, Mich.

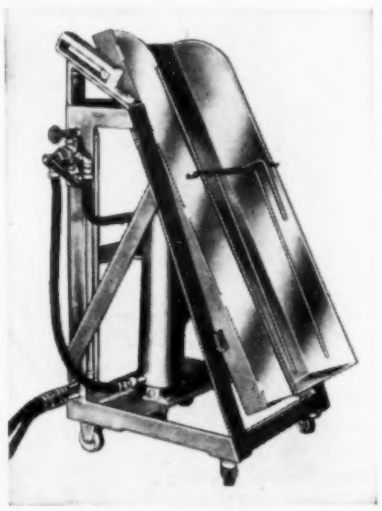
▲ Mention Item NED-1751 when writing ▲

HIGH VACUUM DIFFUSION PUMP
lowers pressure to 0.0000005-mm Hg

Designed for automatic tube exhaust machines and high vacuum research, model MCF-60 high vacuum diffusion pump provides speed of 60 liters per second in range of 0.00001 to 0.001-mm Hg. It embodies three-stage concentric cylinder type of fractionating jet assembly fitted into enlarged boiler. Large boiler area provides uniform heating and sufficient vaporizing surface to insure adequate fractionation and jet power. When Octoil pump fluid is used, vapor jets will operate against forepressure of 0.2-mm Hg or more, depending on heater input. Water-cooled casing is provided with external heating unit, and jet assembly can be removed easily for cleaning. Made by **Distillation Products Industries,** 763 Ridge Rd. W., Rochester 3, N. Y.

▲ Mention Item NED-1752 when writing ▲

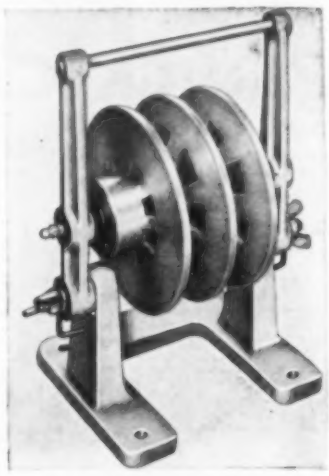
MATERIALS HANDLING DEVICE
lifts and dumps liquids and solids



Easy lifting and dumping of liquids and solids into 50-in. high kettles, bins or tanks is afforded by this hydraulic materials handling unit. Only power required for operation is water from plant water main. With this device, one man can empty 500-lb capacity barrel or 55-gal drum in less than 1 minute. Handler is mounted on 6-in. rubber-tired casters and can be used to serve battery of tanks or kettles. Machine can be fitted with stainless steel trough and hopper into which dry or liquid products can be dumped and mixed before elevating. Made by **Lee Metal Products Co.**, 434 Pine St., Philipsburg, Pa.

▲ Mention Item NED-1753 when writing ▲

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H. P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameters, preventing damage to belts and giving increased torque; single arm support for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. Advt.

▲ Mention Item NED-1754 when writing ▲

SAFE-LINE
WIRE ROPE CLAMPS

Write for details of this—the only PERFECTED wire rope clamp on the market. Millions used by Manufacturers, the Armed Forces and Industries.

NATIONAL SAFE-LINE CLAMP CO.
11252 Nine Mile Road Van Dyke, Michigan

▲ Mention Item NED-1755 when writing ▲

Severance CHATTERLESS TOOLS HIGH SPEED CARBIDE

Winning their way on job after job, they are carefully designed to preclude chatter and can be depended on to produce superior finishes.

• • • • •

Severance CHATTERLESS COUNTERSINKS

STANDARD TYPE — Stocked in 13 diameters up to 2" and in 30°, 41°, 45°, and 60° angles (with C/L).
Sizes 1" and larger stocked also threaded for shanks — tapered or straight — in various sizes.
Use CARBIDE for tough jobs or high production.

HEAVY DUTY TYPE — Features larger shanks having a tang drive. Full range of sizes and angles.

HEADQUARTERS FOR COUNTERSINKS, REAMERS, SEATING TOOLS, and SPOTFACERS that preclude chatter.

Severance CHATTERLESS BALL SEAT REAMERS

Standard and Heavy Duty Types 8 sizes each. Made also for shaped cavities — as ordered.

BALL NOSE DRILLS — In corresponding sizes hog out the stock for Ball Seat Reamers.

Severance TAPER REAMERS

• Faster cutting
• Better finishing
• Shear-cut teeth

Tapers up to 15° quickly supplied from stock — up to 1½" diameter x 2¾" long.

Unexcelled for holes having keyways, ports, splines, cross holes, etc.

Write for Catalog 16

SEVERANCE TOOL INDUSTRIES, Inc.
761 Iowa Ave. Saginaw, Michigan

▲ Mention Item NED-1756 when writing ▲

Ruggedly equal to Heavy Duty Heat Treating

HUPPERT MODEL 16 FURNACE

Heat Ranges

- Continuous: Up to 1850° F.
- Intermittent: Up to 1950° F. Also—2300° F. Special for high speed steel treating.

Model 16 (ID 12"x8"x18"), Complete
$825.00

The Huppert Model 16 Furnace provides rugged and dependable service life far beyond normal production requirements. Completely automatic temperature control assures on-the-line accuracy. Huppert's Multi-Insulation means low current consumption and low operating cost. Wedge-type door affords tight reseating. Heavy steel body includes convenient shelf. 220 v AC, single or 3-phase—110 v or 440 v furnished special. Available with work chamber depths of 12" w. x 8" h. x 18", 24", 36" or 44" deep. Overall dim. 35" w. x 82" h. x 46", 52", 64" or 72" deep.

Write for Catalog showing complete Huppert line of floor and table model furnaces.

K. H. HUPPERT CO.
6838 Cottage Grove Ave.
CHICAGO 37, ILLINOIS

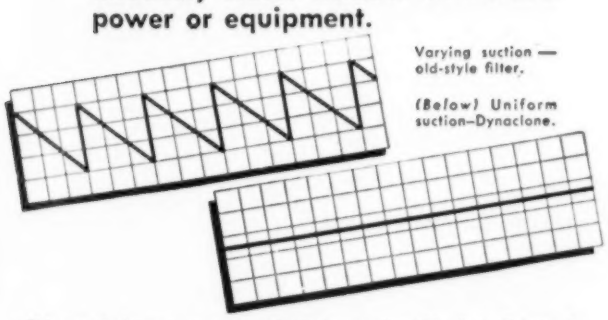
▲ Mention Item NED-1757 when writing ▲

NEW... Cloth Screen Dust Filter

SLY DYNACLONE*

Offers 5 NEW Advantages

1. Eliminates mechanical shaking.
2. Provides uniform suction at dust source.
3. Assures longer bag life . . .
4. Minimum maintenance.
5. Keeps itself automatically and continuously clean without additional power or equipment.



Varying suction — old-style filter.

(Below) Uniform suction—Dynaclone.

This revolutionary new dust filter is another Sly first. Extremely simple and thoroughly dependable, it eliminates entirely the gremlin of mechanical shaking and provides uniform suction of air at dust source.

This uniform suction is achieved by a simple device which cleans the filter bags successively by a reverse flow of air — the same suction which draws the dust onto the filter cloth is reversed to blow it off.

Since this reverse air suction operates continually, the new Sly Filter requires no shutdowns for removing dust from the cloth.

No mechanical shaking or flexing device is needed, eliminating all strain and wear on the filter bags.

The simplicity of design and operation and elimination of all auxiliary equipment for periodic cleaning of bags mean a saving of floor space and a very minimum of maintenance.

The result of long experimentation and exhaustive tests, the Sly Dynaclone has thoroughly proved itself. It provides substantial savings over any other type of cloth screen dust collection. Write for complete information.

*Patent Applied for

Send for descriptive bulletin just out on the new Sly Dynaclone — the ultimate in filter performance.

PIONEERS AND LEADERS IN INDUSTRIAL DUST CONTROL

THE W. W. SLY MANUFACTURING CO.
4748 TRAIN AVENUE • CLEVELAND 2, OHIO
NEW YORK • CHICAGO • ST. LOUIS • PHILADELPHIA
DETROIT • MINNEAPOLIS • BIRMINGHAM • CINCINNATI
LOS ANGELES • ROCHESTER • TORONTO

▲ Mention Item NED-1758 when writing ▲

GOGGLE WIPER DISPENSER
silicone-treated tissue is lintless

Normal month's supply of 3 x 7-in. Sight Saver tissues for keeping eyeglasses and goggles clean is held in convenient metal wall dispenser. These tissues are impregnated with silicone that gives clarity and luster to glass. It also forms invisible coating that protects surface and prevents adherence of most organic materials. Only servicing required for dispenser is insertion of refill pack of tissues. Made by **Dow Corning Corp.**, Dept. IS, P. O. Box 592, Midland, Mich.

▲ Mention Item NED-1759 when writing ▲

UNDER-FEED OILER
uses shatterproof plastic reservoir

Available in 1, 2 and 4-oz capacities, this under-feed oiler is intended for lubricating bearings and shafts requiring very small amount of oil. It is mounted at bottom of bearing, and one end of solid felt wick is held in contact with shaft by positive spring action. Other end rests at bottom of oil reservoir. Oil is raised by capillary action to tip of wick where it is distributed along shaft. Oiler feeds only when machine is in motion. Metal parts are heavily plated for corrosion resistance, and clear bottle keeps oil supply visible. Made by **Trico Fuse Mfg. Co.**, 2948 N. Fifth St., Milwaukee 12, Wis.

▲ Mention Item NED-1760 when writing ▲

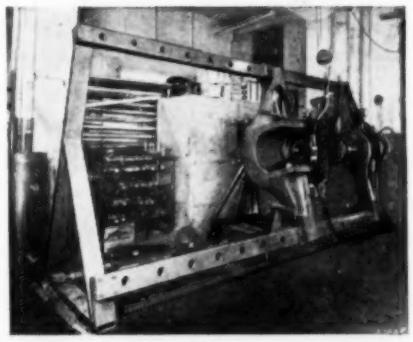
PLATE HANDLING CLAMPS
1/8 to 6-in. sizes are obtainable

Both horizontal and vertical styles of these steel plate clamps are offered in complete range of sizes to handle plate from 1/8 to 6 in. thick and weighing up to 12 tons. Jaw bearing surface is grooved hardened tool steel plate that can be replaced easily. Placed on plate, jaws grip tightly the instant pulling force is applied to clamp by hoist. Illustrated is one style of vertical clamp equipped with chain and ring. Made by **Kensico Mfg. Co.**, Never-Slip Safety Clamp Div., 10 Kensico Rd., Mount Kisco, N. Y.

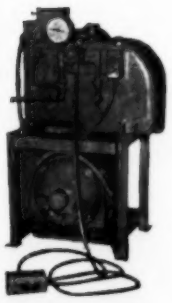
▲ Mention Item NED-1761 when writing ▲

FOR FAST, EFFICIENT PRESSING BENDING, FORMING, STRAIGHTENING . . .

New Rodgers FORCING PRESSES



Rodgers 300 Ton, 75° Inclined, Stationary Forcing Press being used efficiently to press an armature shaft.



. . . Power Pump
Rodgers 2-cylinder Power Pump with remote control.

. . . With These Features

Separate Pumping Units—Choose from individual hand-operated or power-driven pumps. ***Remote Control of Power Pumps***—Operator can control press from any desired position. ***Removable Hydraulic Cylinder***—Cylinder is easily removed from head member. ***Individual Frame Units***—Tracks, tension bars, abutment member and head member are all separate units. ***Expertly Engineered and Constructed***—All units are made strong, durable and dependable.

. . . In These Types and Sizes

Rodgers Versatile Forcing Presses are available in portable or stationary models—horizontal, vertical, 75° or 90° inclined—100 to 600 tons—with hand-operated or power-driven pumps.

Send for New Catalog 315

Rodgers Hydraulic, Inc.
HYDRAULIC POWER EQUIPMENT
7425 WALKER ST., ST. LOUIS PARK, MINNEAPOLIS 16, MINN.

▲ Mention Item NED-1762 when writing ▲

R & M CRANES GIVE WINGS
to Boiler Company Steel

The Huntington Boiler & Supply Co. keeps steel moving fast, efficiently, safely with one 10-ton and two 5-ton Robbins & Myers traveling cranes.

Powerful R & M cranes, hoists and winches lift 1/4 to 25 tons in standard or tailored applications. Choice of control, suspension and capacity. We are always glad to analyze your requirements and quote . . . no obligation. Write for information and free literature.

ROBBINS & MYERS, INC.
HOIST & CRANE DIVISION, SPRINGFIELD 99, OHIO

▲ Mention Item NED-1763 when writing ▲

—Wherever you need them!

STACKBIN sections will give you a stockroom wherever you want it—quickly and easily as building a sectional book case. These patented sectional storage bins nest together without the use of tools—cost you nothing to build, nothing to move. Find out today how STACKBINS can lower YOUR handling costs.

IMMEDIATE SHIPMENT
Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa
Write Stackbin Corp., 1081 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

▲ Mention Item NED-1764 when writing ▲

Tempilstiks°

the amazing Crayons that tell temperatures

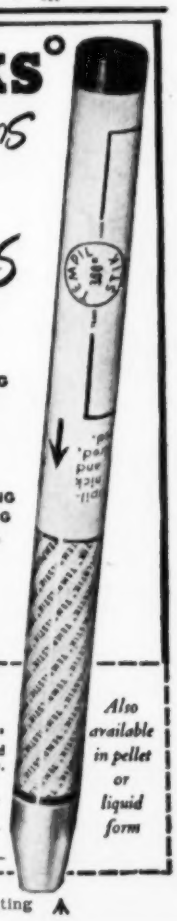
in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

It's this simple: SELECT the Tempilstik° for the working temperature you want. MARK your workpiece with it. WHEN the Tempilstik° mark melts, the specified temperature has been reached.

available in these temperatures (°F)
113°, 125°, 138°, 150°, 163°, and so on to 400°F
400°, 450°, 500°, 550°, 600°, and so on to 2000°F

gives up to 2000 readings

$2 each



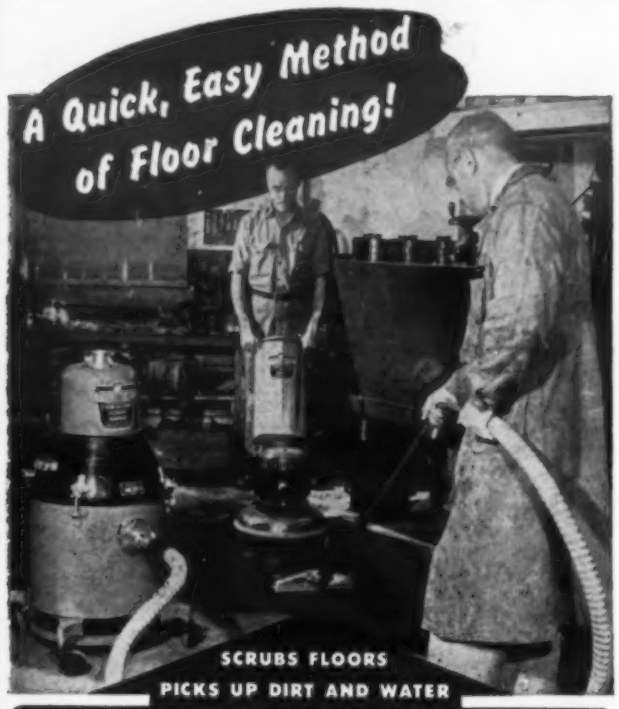
Also available in pellet or liquid form

TEMPIL CORPORATION
132 W. 22nd St., New York 11, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

▲ Mention Item NED-1765 when writing ▲

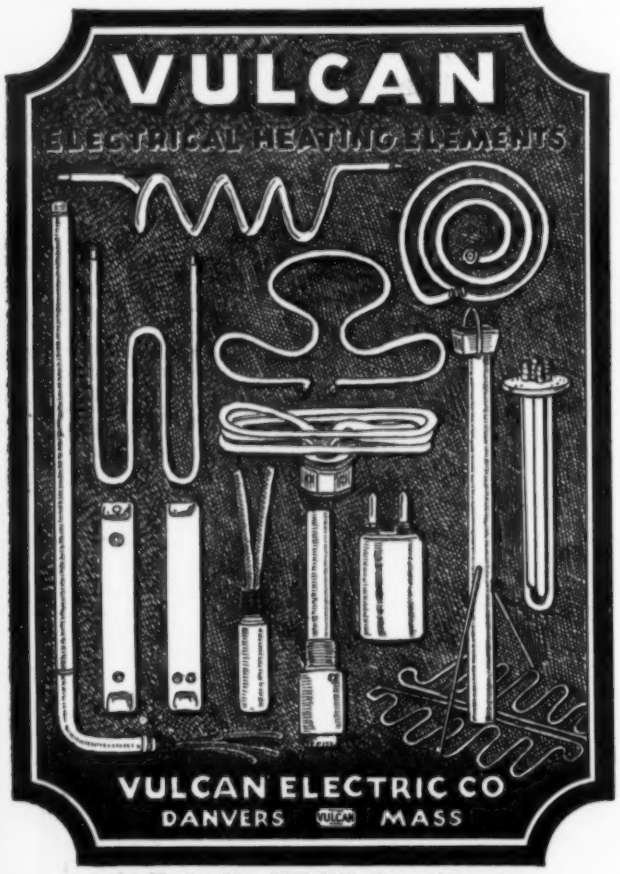


Mechanized floor cleaning the Multi-Clean way saves time, labor and money . . . does a better job. Learn how Multi-Clean can solve your problem. Write today.

MULTI-CLEAN PRODUCTS, INC.

Dept. 32A 2277 Ford Pkwy. St. Paul 1, Minnesota

Mention Item NED-1766 when writing



Mention Item NED-1767 when writing

TRUSCON STEEL BOXES just say "Truscon"...

System and neatness are synonymous with the use of Truscon Steel Boxes and Skids.

and there's the *box* you need!

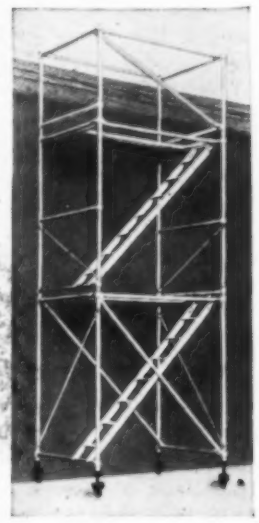
Truscon has scores of different types of steel boxes and skids to meet a wide range of materials handling requirements. And if your needs are something special, Truscon has the engineering ability to tailor-make the exact units you require. Truscon's long experience in steel box and skid design...Truscon's highly efficient facilities for production and service...Truscon's long association with box users in every branch of materials handling... these are *plus* features that make your dollar investment in Truscon Steel Boxes and Skids so much more profitable. Write for catalog.

TRUSCON STEEL COMPANY

TRUSCON STEEL DIVISION • 4100 TRUSCON AVENUE • CLEVELAND 4, OHIO
SUBSIDIARY OF REPUBLIC STEEL CORPORATION

Mention Item NED-1768 when writing

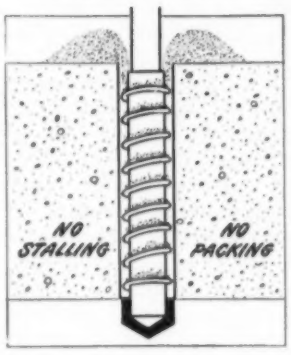
PORTABLE ALUMINUM SCAFFOLD
sectional type is easy to erect



Light weight and ease of handling make this aluminum rolling scaffold suitable for many types of overhead and sidewall work such as painting, cleaning and maintenance. Scaffold can be obtained as stairway or ladder type with all parts of both types except casters and platforms made of aluminum alloy. Units are supplied in one or more sections with guard rails. Bottom section including nonelevating casters is 7 ft 3 in. from ground to first platform; each additional section is 6 ft 8 in. high. Base measures 4 ft 6 in. x 6 ft. Two styles of 5-in. steel casters are available: nonelevating model and adjustable type with steel screw to provide additional height. Made by **Patent Scaffolding Co.,** 38-42 Twelfth St., Long Island City 1, N. Y.

Mention Item NED-1769 when writing

MASONRY DRILL
spiral wire flute removes dust



High tensile wire forming 'live-spiral' flute on shank of carbide tipped masonry drill cleans hole during drilling operation. Solidly attached to shank at upper and lower ends, wire is wound around shank in low-spiral helix. Dust cut loose by tip in any type of masonry 'marches' up around spiral and out top of hole. Pressure required on drill is no greater at end of deep hole than at start. Dust does not pack in hole, and little heat is generated. Drill fits any rotary drill, hand brace or drill press and is available in ten diameter sizes ranging from ¼ to 1 in. Each is packaged in transparent plastic tube with screw top. Three kits are offered, two containing six drills each from 3/16 to ⅝-in. and from ¼ to ¾-in. respectively, while third kit contains ¼, ⅜ and ½-in. sizes. Made by **Carboloy Co.,** 11163 E. Eight Mile Rd., Detroit 32, Mich.

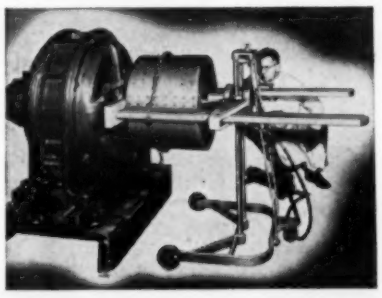
Mention Item NED-1770 when writing

METAL SCRAP SWEEPER
magnetic unit releases instantly

Stray nuts, bolts, screws and small metal parts can be removed from shop floors by Magimmick magnetic sweeper. It rolls easily on fiber wheels and has 12-in. permanent magnet sweeping surface. Compact design allows reaching under benches and machines and into corners. Opening of cover operates release mechanism, and sweepings drop off instantly. Device is suitable for use in recovering ferrous parts which have been dropped. Made by **Ullman Products Corp.,** 150 Prospect Ave., Brooklyn 15, N. Y.

Mention Item NED-1771 when writing

HYDRAULIC PULLEY PULLER
is rated at 50 tons pressure



Large pulleys, wheels, gears and other units can be removed easily from shafts by heavy-duty portable hydraulic puller. Two feet at ends of adjustable arms are placed behind object to be removed, and ram is placed in position against end of shaft. Pressure applied by ram against shaft by means of hydraulic jack quickly loosens and removes object without damage. Puller has heat treated alloy steel cross beam, puller arms and feet and can handle up to 42-in. diameter pulleys with face width to 48 in. While weighing over 600 lb, unit can be moved and operated by one man. Made by **Industrial Engineering Equipment Co.,** 122 E. Fourth St., Davenport 10, Iowa.

Mention Item NED-1772 when writing

SMOOTH AS A GUN BARREL!

SUPER FINISH BORE ON UNIVERSAL DRILL BUSHINGS LENGTHENS BUSHING LIFE, REDUCES TOOL BREAKAGE

To super finish I. D., add such plus features as blended radius, knurled head, I. D. break, chamfered O. D., and you have the reasons why Universal Drill Bushings are specified by many of America's leading manufacturers. Universal provides extra prompt sectional delivery and information from warehouses at 1060 Broad Street, Newark, N. J., and 5035 Sixth Ave., Kenosha, Wis. Write, call or wire today!

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN

Mention Item NED-1773 when writing

DUST REMOVAL costs less with DUSTUBE

Higher INVESTMENT RETURN

You can collect dust more efficiently, per dollar invested, with a Dustube. Its simplicity of design is reflected in its low cost to you. In the words of one user " . . . our Dustubes are the best investment we have ever made."

Lower OPERATING COSTS

Dustube users are fluent in their praise of its power savings. For example two users report: "The dustube is certainly the least expensive of all dry type collectors to operate and maintain." "Power costs are exceptionally low due to the ample spacing of the tubes which decreases resistance to air flow."

Lower MAINTENANCE COSTS

The low cost of maintenance with a Dustube is shown in the following quotations from three typical users: "Its simplicity of design appeals to our maintenance gang, since thorough inspection is so easy and rapid." "Shaking periods to clean the cloth tubes are short and infrequent—there is no delay in our busy cleaning schedule due to down time of the collectors." " . . We save both hours and dollars in maintenance costs."

GET THE FACTS ON DUSTUBES. WRITE FOR LITERATURE.

ADVANTAGES

BETTER DUST REMOVAL—Simple, fast, thorough. Shortens cleaning time.

POWER SAVINGS — Lower resistance to air flow. Lower air velocities.

HIGH EFFICIENCY—Nearly 100% efficient by convincing tests.

EASE OF INSPECTION—Clean, safe, simple. No parts to remove.

LESS FILTER WEAR—No abrading metal contact. Easy to ship, store and handle.

FASTER FILTER REPLACEMENT — Takes only a few seconds. Requires no tools.

American WHEELABRATOR & EQUIPMENT CORP.
508 S. Byrkit St., Mishawaka 8, Ind.
dustube COLLECTORS

Mention Item NED-1774 when writing

Cut Polishing Time Improve Surface Quality

with "LINDE" FINE ALUMINA POWDERS

Obtain superior finishes, free from microscopic pits and scratches in a fraction of the usual polishing time. Use less abrasive and use it directly without levigation and other wasteful preparatory steps. They can also be compounded with waxes and used in stick form.

LINDE Fine Alumina Powders are characterized by ultra-fine, uniform particle size, high purity, and swift polishing action. They have gained wide-spread acceptance in polishing materials ranging from metallographic specimens to gemstones and noble metals.

Call or write any LINDE office and we will be glad to discuss your particular polishing applications.

	Type A	Type B
Chemical Composition	Alpha Al_2O_3	Gamma Al_2O_3
Particle Size (approximate)	0.3 Microns	Less than 0.1 Microns
Hardness (Moh's) (Equivalent to crystalline material)	9	8
Crystalline Structure	Hexagonal	Cubic

The term "Linde" is a trade-mark of The Linde Air Products Company

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

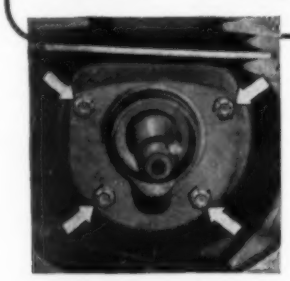
30 East 42nd Street, New York 17, N. Y. UCC Offices in Other Principal Cities

In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

▲ Mention Item NED-1775 when writing ▲

These HUGLOCKS are the nuts to . . .

withstand SHOCK-LOADING AND VIBRATION



Huglocks on rear brake backing plate

The HUGLOCK is a one-piece, all-metal, self-locking nut designed for use wherever shock-loading and vibration are a problem . . . even under heat, oil or moisture.

Other "National" Lock Nuts include: MARSDEN—for effective locking at minimum cost. DRAKE—for rugged, heavy equipment where severe stress, shock or vibration must be overcome. DYNAMIC—for lightweight, low-clearance, locking in shear.

Write for Lock Nut Booklet giving engineering, design, weight and cost data.

National PRODUCTS

THE NATIONAL SCREW & MFG. CO., CLEVELAND 4, OHIO

▲ Mention Item NED-1776 when writing ▲

LIFT OR LOWER—FLOOR TO FLOOR

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for Bulletin No. NED-30.

Standard Conveyor Company
North St. Paul, Minn.

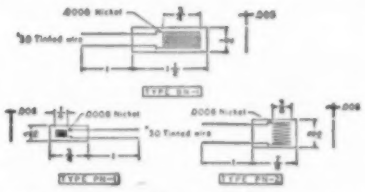
Sales and Service in Principal Cities

Standard GRAVITY & POWER CONVEYORS

▲ Mention Item NED-1777 when writing ▲

THERMOMETER ELEMENTS are applied with plastic cement

Standard line of RdF Stikons has been extended to include two additional resistance thermometer elements, types PN-1 and PN-2. Function of these elements is to provide thermometers which are easier to install than previous type BN-1. Elements are made up of grid of fine nickel wire which is bonded into nitrocellulose cement-and-paper wafer. They can be attached to any surface with Duco household cement, and their characteristics are identical except for physical size and nominal resistance. Operating range extends from −100° F to 200° F. Made by **Ruge-de Forest Inc.**, Dept. NED, 76 Massachusetts Ave., Cambridge 39, Mass.



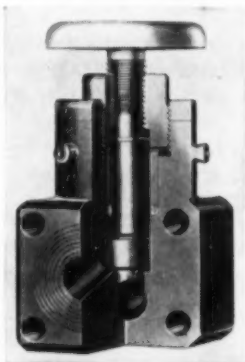
▲ Mention Item NED-1778 when writing ▲

NAIL-LIKE FASTENER secures insulation to sheet metal

Insulation can be fastened permanently to sheet metal roofs, walls and air conditioning duct work with this Speed Clip fastener. It is driven same as a nail through insulation and into metal. Clip has razor-sharp point for penetrating steel 0.040 to 0.050-in. thick and forms barb which hugs radius of sheared tab. Box flanges add rigidity and make it impossible to drive clip too far into metal. Since head of fastener is flat, finish roofing can be applied smoothly over insulation. It is produced in three sizes for applying insulation ½-in., 1 in. and 1-3/16 in. thick. Made by **Tinnerman Products, Inc.**, 2044 Fulton Rd., Cleveland 13, O.

▲ Mention Item NED-1779 when writing ▲

CORROSION-RESISTANT VALVE globe type is of impervious graphite



Available in 1 and 2-in. sizes, this Karbate brand corrosion-resistant globe valve is designed for shutoff and throttling service with corrosive fluids free from abrasive solids. Except for Teflon packing, all valve parts in contact with fluid are impervious graphite, thus preventing corrosion and contamination. Because of its high thermal conductivity and resistance to thermal shock, valve can be heated readily for handling highly viscous solutions by steam in coil of copper tubing wrapped around it. Tapered disk valve seat assures accurate and close control of fluid flow and is self-reseating. Made by **Union Carbide & Carbon Corp.**, National Carbon Div., Dept. NE, 30 E. 42nd St., New York 17, N. Y.

▲ Mention Item NED-1780 when writing ▲

MODERN INDUSTRIAL COUNTERS

Rugged as an Army tank. Work smooth as a watch.

Precision built—for tremendous wear life. Tamper-proof Reset.

Modern design—streamlined appearance—you can see the quality.

Used by the thousands in Auto and Aircraft Factories, Metal Working, Die Casting, Plastic Molding and Stamping Plants.

See a Silver King and compare. Order sample on approval today.

Send for Catalog describing

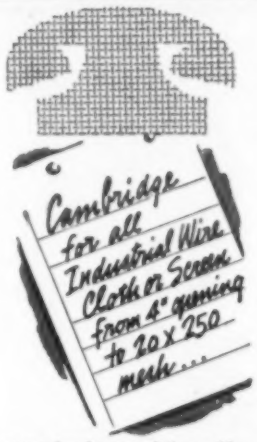
Stroke and Revolution Counters
Coil Winding Counters
Electric Counters
Electric Batch Counters
Actuating Switches

Production Instrument Company

700-12 W. JACKSON BLVD., CHICAGO 6, ILL.

Representatives in Principal Cities

▲ Mention Item NED-1781 when writing ▲



. . . any metal or alloy in any gauge, mesh and weave that will give you the best performance in your filtering or screening operations or for fabricating purposes. Cambridge offers you one-source buying simplicity on all your wire screen or metal cloth requirements.

Your Cambridge Field Engineer is an experienced and fully qualified consultant, ready to help you solve any industrial wire cloth problems. He is backed by large stocks of standard materials and by skilled craftsmen and modern facilities for fast service on highest quality specially woven items.

CONSULT YOUR CAMBRIDGE MAN OFTEN

VALUABLE BOOK FREE! A ready reference on the Cambridge line, metallurgy and simple methods of metal determinations, conversion tables and other data. Write for your copy or call your nearest Cambridge office.

Cambridge Wire Cloth Co.

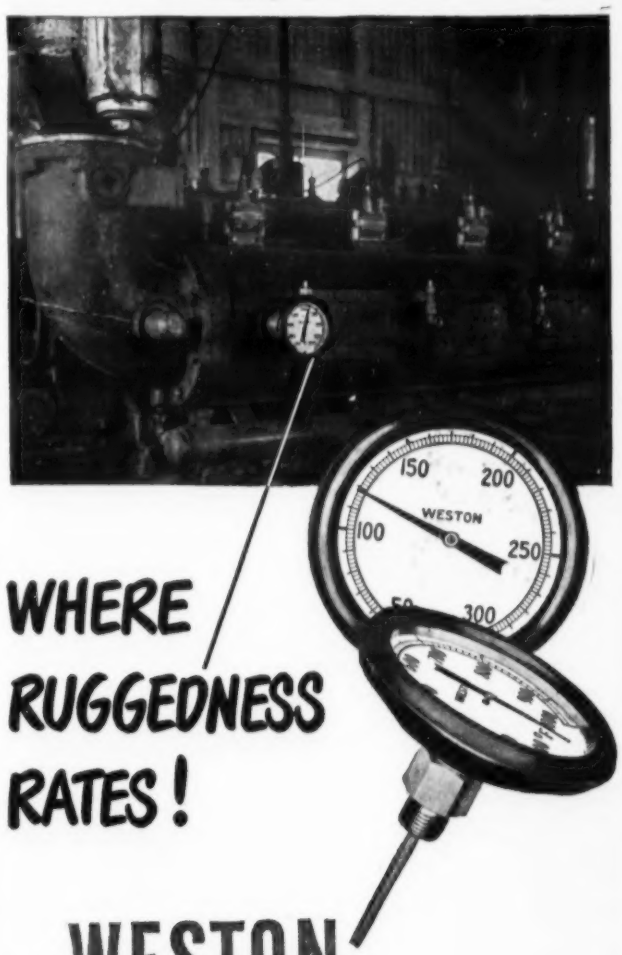
trays · crates · screens
baskets · fixtures

DEPARTMENT C
CAMBRIDGE 3, MD.

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

See "Wire Cloth" in your Classified Telephone Directory.

▲ Mention Item NED-1782 when writing ▲



WHERE RUGGEDNESS RATES!

it's WESTON

All-Metal Thermometers

Where the going is tough, WESTON thermometers get first call. Their rugged construction—all-metal throughout—enables them to stand up on pumps, compressors and mobile units. And the big, bold dials are easy to read—quickly and accurately! There are many types, stem lengths and scale ranges from which to choose. Ask your jobber or local WESTON representative, or write for Thermometer Bulletin. WESTON Electrical Instrument Corporation, 663 Frelinghuysen Avenue, Newark 5, N. J.

CONTACT-MAKING models for alarm or control purposes. MAX-MIN models to indicate highest or lowest temperature reached.

WESTON *Instruments*

▲ Mention Item NED-1783 when writing ▲

NEW!

The ALDRICH 5" Stroke Direct Flow Pump Series

At a new low in price, these 5" Stroke, reciprocating pumps offer high performance, easy serviceability and outstanding economy of maintenance. Built with 3, 5, 7, or 9 cylinders, the series ranges from 100 to 275 hp and provides pressures up to 10, 800 psi. The fluid-end has a direct flow, close clearance design, and consists of a sectionalized assembly which permits specific sections to be replaced — at a fraction of the cost of an entire end unit. Design also features easy access to valve assemblies, a wide range of plunger sizes and interchangeable wearing parts. Write for Data Sheet 64.

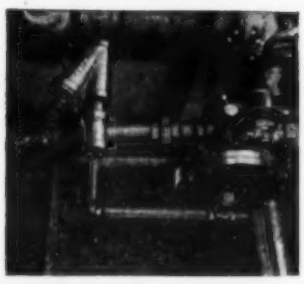
THE ALDRICH PUMP COMPANY
4 GORDON STREET
ALLENTOWN, PENNSYLVANIA

ALDRICH

All Aldrich Pumps Have STAYING POWER

Mention Item NED-1786 when writing

ARE YOUR HEATERS *Getting a Break?*



Two Sarco DSH 125 Regulators control each of the five large double coil heaters overhead. At times only the one section of each heater is on. Sarco ASO Ductstats shut off the coils in case of overheating. Result — Good working conditions with lowest fuel costs.

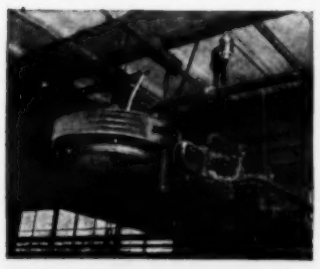
No matter how carefully you select and locate the unit heaters to fit the job to be done, complete satisfaction cannot be assured unless you also take care of the vital factors:

1. Use the right steam trap and air vent to keep the heater surfaces in contact with hot, dry steam, and remove condensate and air rapidly and completely.

2. Provide simple but effective Sarco Controls to start and stop the fans as required, or to modulate the steam supply to the heaters.

Below — two simple examples of unit heater efficiency. You can get 10 to 30% more out of your heaters by spending 1 or 2% of their cost for suitable Sarco Steam Traps and Controls. Ask for special information on unit heater hook ups.

OR BETTER YET — ASK THE SARCO MAN NEAR YOU



At Broadvue Motors, Cleveland, Ohio—large doors let in cold at irregular intervals. Here Sarco Electric Thermostat and Float Trap keep the rooms comfortable without unnecessary heat.

Down blast unit heater dispels mist in dye room. Sarco Float Thermostatic Traps and Sarco Strainer ideal for continuous jobs like this.

256

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N.Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

Mention Item NED-1787 when writing

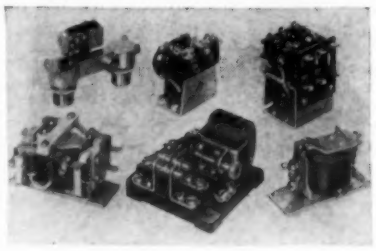
TIME SWITCHES
have interchangeable mechanisms for various contact arrangements

Rated 35 amp, series TS50 Inter-Matic time switches include single-pole single-throw, single-pole double-throw, double-pole single-throw types and model for low voltage switching. Minimum on and off time is 1 hour, and maximum is 23 hours. Attachment of trippers permits from one to twelve on and off operations every 24 hours.

Identical operating mechanisms of all models allow conversion to any other type by changing switch assemblies. Switches can be converted to portable plug-in units by attaching adapter. Self-starting synchronous motor is fully enclosed and permanently lubricated. It is mounted in front and has observation window which permits checking of operation without removing mechanism. Manual control with automatic reset affords manual on and off switching irrespective of time settings. Switches employ silver snap-action contacts and are Underwriters' Laboratories approved. Made by **International Register Co.**, 2622 W. Washington Blvd., Chicago 12, Ill.

Mention Item NED-1788 when writing

ELECTRICAL RELAYS
various types for specific uses



Series BO relays employ molded Bakelite insulation throughout and are available in one or two-pole, normally-open, normally-closed or double-throw types and in double-break contact arrangements. Standard silver contacts have noninductive rating at 15 amp or 30 amp for double-break contacts at 24-v dc and 110-v ac. Alloyed contacts for special applications are available on order. Various illustrated models include type BOB with screw type terminals, BOH with solder terminals, BOH ond BOHO hermetically sealed units and BOHO with standard octal plug-in base. Made by **Allied Control Co.**, East End Ave., at 79th St., New York 21, N. Y.

Mention Item NED-1789 when writing

VARIABLE TRANSFORMER
improved unit withstands severe use

Redesigned types 116 and 216 Powerstat variable transformers incorporate numerous improvements but retain standard mounting dimensions to conform to existing panel layouts. Type 116 operates from any 115-v 50/60-cycle source to deliver 0 to 135 v, 7.5 amp; and latter type has output of 0 to 270 v, 3.0 amp from 230-v 50/60-cycle single-phase current.

Modifications include use of diecast aluminum terminal box on cord-plug models, heavy terminal board of phenolic plastic, better arrangement of solder-screw terminals, and barriers between terminals to reduce short circuit hazards. Other improvements incorporated in cord-plug models are new fusing arrangement and polarity identification for requirements involving ground loads. Made by **Superior Electric Co.**, 93 Hannon Ave., Bristol, Conn.

Mention Item NED-1790 when writing

FLOOR CLEANER
is designed for damp sweeping

Fine grit and soot are picked up by Damp-Sweep broom type tool. A 40-in. square cloth with taped hole at center is dampened and slipped over handle and wrapped around brush element which is designed to hold cloth against floor rather than to sweep dirt. Universal joint type attachment that joins instrument's 5-ft handle to brush permits handle to be rotated to any angle while brush remains stationary on floor. It permits sweeper to maneuver tool around corners or in and out of confined areas as he walks. Made by **Walter G. Legge Co.**, Dept. NED, 101 Park Ave., New York 17, N. Y.

Mention Item NED-1791 when writing

Bulletin 705 Reversing Switches

A-B Quality

- Contactors mechanically interlocked
- Silver-alloy contacts need no cleaning

This complete line of switches provides reliable across-the-line starting and reversing of polyphase squirrel-cage and slip-ring motors, as well as certain types of single-phase motors used on machine tools and other industrial equipment. May also be used in motor plugging operations. Write for descriptive bulletin. Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

Mention Item NED-1792 when writing

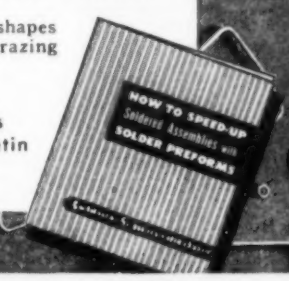
this Bulletin tells you how to

SPEED-UP Soldered Assemblies with SOLDER PREFORMS

Now you can eliminate tedious manual solder operations from your assembly lines. Solder Preforms, custom-made to meet your products' particular requirements help solve many production bottlenecks. They provide more perfect bonds, reduce labor costs and set new production records wherever they're used.

Available in all shapes and sizes . . . in brazing and solder alloys.

SEND for this Informative Bulletin Today!



Soldering Specialties
17 Chatham Rd., Summit, N. J.

Mention Item NED-1793 when writing

LIFTING SPEED OF 35 FEET PER MINUTE WITH YALE LOAD KING WIRE ROPE ELECTRIC HOIST... ¼ AND ½ TON MODELS

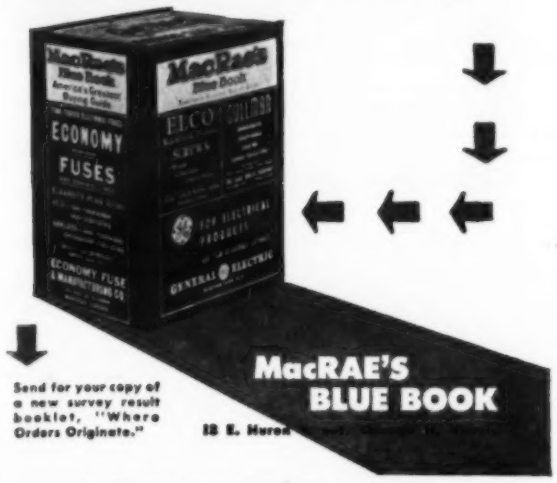
- 1 ton model has lifting speeds of 12 F.P.M. and 16 F.P.M.
- Push-button control leaves one hand free to guide the load.
- Wire rope has necessary flexibility for nominal side lifts.
- Grooved drum prevents wire rope from piling up.
- Lug type is standard. Top swivel hook or plain trolley easily attached.

Write for bulletin

YALE
THE YALE & TOWNE MANUFACTURING CO.
Roosevelt Boulevard • Philadelphia 15, Pa.
HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

Mention Item NED-1794 when writing

At 9 out of 10 of the largest and most important decision points in American industrial purchasing, MacRAE'S BLUE BOOK is used as a reference source "principally" or "exclusively."



Send for your copy of a new survey result booklet, "Where Orders Originate."

▲ Mention Item NED-1795 when writing ▲

Write for Catalog OF USES and SPECIFICATIONS

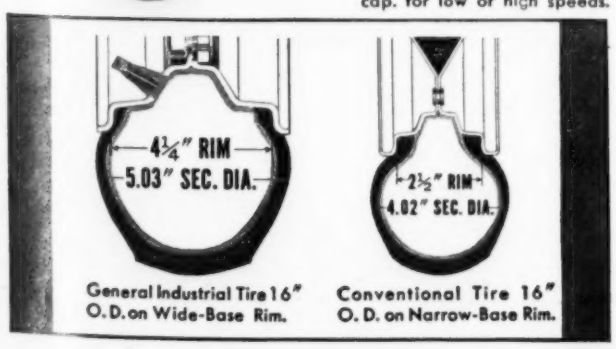
GENERAL Industrial Pneumatics

ADD THESE 6 SELLING POINTS TO YOUR PRODUCT

SAVE
• TIME • LABOR
• FLOORS

REDUCE
• BREAKAGE
• MAINTENANCE
• COSTS

Available in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 23"—200 to 2000 lbs. cap. for low or high speeds.



General Industrial Tire 16" O. D. on Wide-Base Rim. Conventional Tire 16" O. D. on Narrow-Base Rim.

MORE
• AIR VOLUME
• STABILITY
• LOAD CAPACITY
• MILEAGE

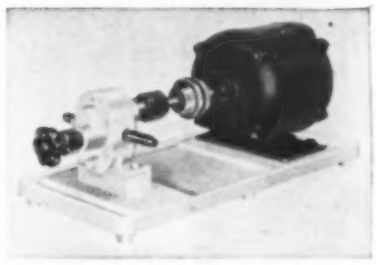
THE GENERAL TIRE

SEND FOR CATALOG... DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

▲ Mention Item NED-1796 when writing ▲

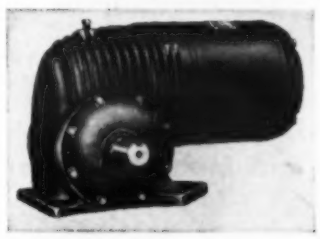
SELF-PRIMING PUMP
of stainless for corrosive service



Equipped with manual by-pass control valve to permit easy regulation of pressure and flow rate, this model ESP self-priming pump is recommended for pumping corrosive liquids, chemicals, drugs, foods and pharmaceuticals. It can be obtained in five sizes: 3, 5, 10, 20 and 30 gpm at 0 psi. All sizes can be supplied as individual units or as complete pump assemblies, direct or belt driven. Made by **Ertel Engineering Corp.**, 22 Front St., Kingston, N. Y.

▲ Mention Item NED-1797 when writing ▲

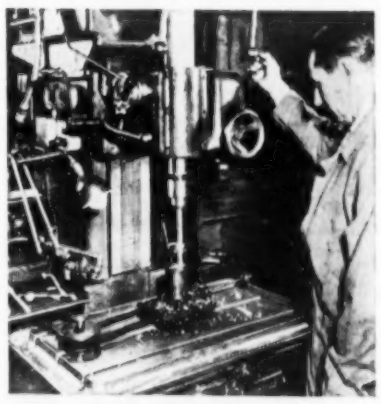
GEARMOTOR
1½-hp unit delivers 25 to 280 rpm



Extending range of line from ⅛ to 1½ hp, this worm type 1½-hp gearmotor is obtainable for operation on single or polyphase alternating or direct current. Armature and output shafts are only moving parts. Only four bearings, two ball and two roller, are employed. Made by **Century Electric Co.**, Gear Motor Div., 1812 Pine St., St. Louis 3, Mo.

▲ Mention Item NED-1798 when writing ▲

DRILL PRESS WORK HOLDER
work is readily positioned on table



Converting torque of spinning drill, tap or reamer into useful force, Torkarm attachment holds work securely yet permits operator to move it freely across work table. Torque absorption is attained by action of two pairs of arms, hinged in parallel on fixed centers at both ends and in middle. Hinging allows free lateral movement. Fixed center arrangement forces arms to remain parallel so that they remain equal in length regardless of any position they may assume. Since each set of arms is tied and hinged individually at one end to table and at other to free work plate, plate cannot rotate. Thus, plate remains stationary under torque but moves freely across horizontal plane of table in any direction when lateral force is applied. Made by **Torkarm Corp.**, 2901 S. Emerson Ave., Minneapolis 8, Minn.

▲ Mention Item NED-1799 when writing ▲

Since 1887

MILWAUKEE WROT WASHERS

Better WASHERS ...Competitively Priced

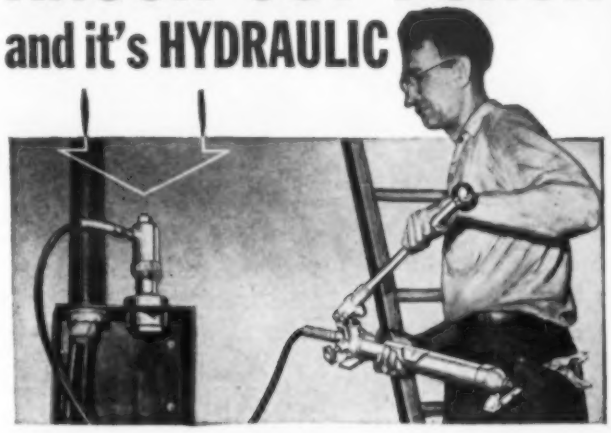
Large volume production, the most advanced methods and facilities, plus more than 60 years of continuous experience in the manufacture of Washers, are factors that enable us to offer you top quality washers and stampings at competitive costs. Over 22,000 sets of dies for making Washers of every type (Standard and Special), from every type of material, for every purpose, in any finish. STAMPINGS of all descriptions; Blanking, Forming, Drawing.

Submit your blueprints and quantity requirements for estimates.

WROUGHT WASHER MANUFACTURING CO.
The World's Largest Producer of Washers
2256 S. BAY ST., MILWAUKEE 7, WIS.

▲ Mention Item NED-1800 when writing ▲

IT'S A **KNOCK-OUT PUNCH** and it's HYDRAULIC



No Wrench to Swing! Faster • No Box Distortion Close-Quarter Operation • Greater Safety

A Kit for every range, to punch openings for ½" up to 4" conduit.

New! Punch conduit openings in electrical distribution boxes, pull boxes, etc. with smooth hydraulic power. Save 60% of job time. Buy from leading supply houses. RUSH post card requesting Bulletin 50-B describing this and other important, low-cost time-savers. Blackhawk Mfg. Co., Dept. P1430, Milwaukee 1, Wis.

BLACKHAWK

▲ Mention Item NED-1801 when writing ▲

FROM ONE RELIABLE SOURCE

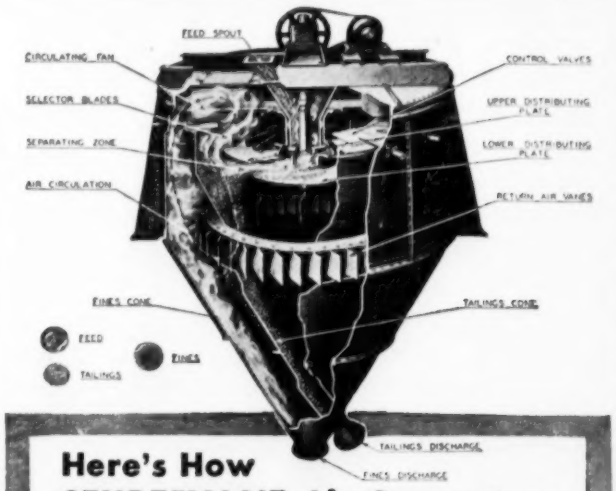
ENGINEERED CONTAINERS for EVERY PACKING PURPOSE!

Send for free booklet

GENERAL BOX COMPANY..
★★★★★ engineered shipping containers

GENERAL OFFICES: Corner of Illinois and Dearborn Streets, Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Meridian, Sheboygan, Winchendon, • Continental Box Company, Inc.: Houston, Dallas

▲ Mention Item NED-1802 when writing ▲



Here's How STURTEVANT Air Separators Increase Production of Fines ...Lower Production Costs

Sturtevant Air Separators effect production savings by increasing output by 25 to 300%... reducing power consumption by as much as 50%.

They efficiently carry off all classified materials in any desired fineness from 40 to 325 mesh and finer... eliminate the need of screening in certain applications. Capacities available from ¼ to 50 tons per hr. *Write for full details, today.*

Sturtevant Mill Company
114 Clayton Street, Boston 22, Mass.

▲ Mention Item NED-1803 when writing ▲

Rotor's 15 New "Multi-power" Chippers are easier to handle . . . do jobs faster

The unique hollow piston and "doughnut" valve of the 15 new Rotor "Multi-power" Chipping Hammers provide the 1-2 punch to cut your chipping costs.

Lighter Weight. These new Rotor Chippers average 1½ to 2 lbs. lighter than other chippers making them easier to handle.

Shorter. Exclusive "doughnut" valve makes possible saving of 1" to 2" in length, making it easier to get into those tough, crowded corners.

Faster Cutting. You get more blows per minute . . . because of new exclusive design.

3 Models in 1. By a simple change of parts you can adapt each of the 5 basic models to serve as 3 hammers to match your job: (1) A "regular" model, (2) A "super-speed" model, (3) A "super-sock" model.

This is the biggest advancement in chipping hammers in the past 15 years! Find out all about it! Write for catalogue No. 37.

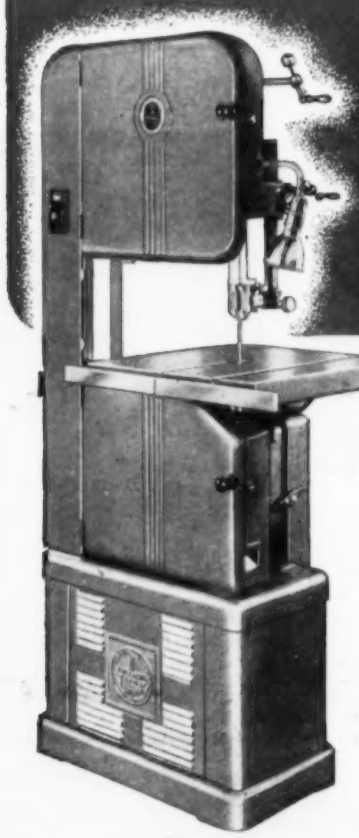
AIR O'TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO
UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS

▲ Mention Item NED-1804 when writing ▲

NEW! WALKER-TURNER 16" BAND SAW

for Metal, Plastic and Woodworking



REVOLUTIONARY IN DESIGN AND CONSTRUCTION

A product of Walker-Turner *designing* — means it's low in initial cost . . . high in operating efficiency!

walker-turner DIVISION

LOOK AT THE SPECIFICATIONS . . . COMPARE

Capacity: 16" between blade and frame—8" under guide
Guides: Upper and lower, leaf type
Frame: Heavy cast-iron, one-piece, for extra strength and rigidity
Bearings: 4 heavy duty precision ball bearings
Wheels: Cast aluminum, carefully balanced, rubber faced
Table: Cast iron, 18" x 17", carefully machined
Guards: Cast aluminum, provide full protection

Single speed models for wood and plastic cutting. 8 blade speeds—with standard motor 193-5692 feet per minute; with slow speed motor 126-3700 feet per minute.

SOLD ONLY THROUGH AUTHORIZED DEALERS

Walker-Turner DIVISION
KEARNEY & TRECKER CORP. PLAINFIELD, N.J., U.S.A.

KEARNEY & TRECKER MILWAUKEE
WALKER-TURNER DIVISION
PLAINFIELD, NEW JERSEY

SEE YOUR LOCAL DEALER for complete technical data on this and other metal and woodworking machines in the complete Walker-Turner Line, or mail coupon for catalog.

WALKER-TURNER DIVISION
Kearney & Trecker Corp. Dept. N3, Plainfield, N. J.
Please send me a copy of the complete Walker-Turner Catalog.
Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

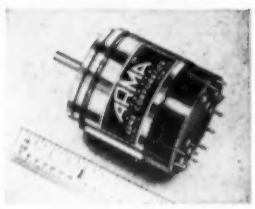
▲ Mention Item NED-1805 when writing ▲

PRESSURE BLOWER
capacity is 100 to 800 cfm

Available in either open or totally enclosed type, this motor driven pressure blower is powered by ¼, ½ or 1-hp 3450-rpm direct-connected 60-cycle motor. It delivers rated capacity against static heads ranging from ½ to 6 in., and since it is of centrifugal type, provides nonpulsating flow of air at power consumption in direct ratio to amount of air used. Direction of discharge can be changed to any of eight 45-degree positions by loosening housing bolts. Reversing housing on mounting bracket and reversing motor also changes flow direction. Units are suitable for removing dust created by grinding, buffing and polishing equipment; exhausting smoke fumes and vapor; conveying cotton, wool, sawdust and shavings; and supplying air to forges and furnaces. Made by **Sutton Mfg. Corp.**, Dept. NED, 114 W. Wilson Ave., Norfolk 10, Va.

▲ Mention Item NED-1806 when writing ▲

SMALL ELECTRICAL RESOLVERS
400-cycle type aid instrumentation



Having wide utility in instrumentation involving trigonometric problems, these size 03 miniature electrical resolvers can be used to replace gears, bearings and slides previously used for such purposes. Series consists of eight units that differ little except in electrical characteristics; each of eight types weighs approximately 5 oz. Four types have advantage of zero phase shift and unity ratio between input and output. Units can be obtained in quantity or in custom arrangements of light accurate standard components to make precision instruments and controls. Made by **Arma Corp.**, 253 36th St., Brooklyn 32, N. Y.

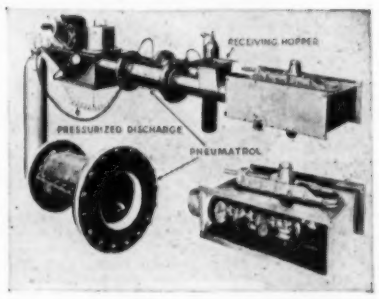
▲ Mention Item NED-1807 when writing ▲

ELECTRIC MUFFLE FURNACE
operating range is 1700 to 2600° F

Rapid heating from room temperature and low heat loss are provided by electric muffle furnace for laboratory use. It uses Globar heating elements, is equipped with ceramic muffle and has tap-changing transformer in base which furnishes manual control. Standard equipment includes ammeter as well as indicating pyrometer with noble metal thermocouple. Inside dimensions are 4½ in. wide x 3 in. high x 7 in. long, and electrical rating is 3500 watts. Furnaces are available for 115-v 60-cycle or 230-v 60-cycle ac. Made by **Hevi Duty Electric Co.**, Laboratory Furnace Div., P. O. Box 563, Milwaukee 1, Wis.

▲ Mention Item NED-1808 when writing ▲

PRESSURE FEEDER UNIT
conveys material into or out of pressure or vacuum zones



Designed to feed material which is at atmospheric pressure into zone that may be under pressure or vacuum, pressure feeder unit employs Pneumatrols that allow differential in pressure between receiving and discharge point. Pneumatrol is shown at lower left of composite photograph and also in cutaway view. Inner sleeve of this unit is flexible member usually fabricated of rubber and mounted in Pneumatrol casing in such manner that air-tight annular space is created between inner sleeve and outer steel casing. For material temperatures above range of rubber, silastic can be used up to 450° F. Water cooled sections can be introduced above this range. Air or water pressure applied in annular space will cause inner sleeve to contract, producing snug fit between sleeve and chain flights as they pass through unit. Made by **Hapman Conveyors, Inc.**, 2405-11 W. McNichols Rd., Detroit 21, Mich.

▲ Mention Item NED-1809 when writing ▲

CONVOY *chem-board STORAGE FILES**

MAKE THE COST AND WEIGHT OF STEEL UNNECESSARY

Convoy Chem-board Storage Files weigh little over half as much as steel files . . . are priced in the corrugated paper board range — with serviceability in the steel range . . . take less than 10% more space than steel files . . . can be stacked to the ceiling without supports . . . mate together top-to-bottom and lock together side-to-side . . . have wax-like texture that makes drawers slide easily . . . are shipped assembled for easy installation without tools . . . are water resistant — moisture will not weaken them.

145 pounds—or 200 pounds and more—are the same to the standard letter file drawer in this unusual strength test!

(*) Chem-board is the product of Convoy's exclusive chemical impregnation process that hardens the raw corrugated paper board and thoroughly binds the fibers. It is widely used to replace steel and wood industrial tote boxes.

You'll like Convoy quality and economy. Write today for full information and prices on 14 standard sizes.

CONVOY *chem-board* STORAGE FILES

CONVOY, INC. • P. O. Station B, Canton 6, Ohio

▲ Mention Item NED-1810 when writing ▲

Nugent Shaft Oiler

PUTS A STOP to the danger and extra work of shaft oiling

With a Nugent shaft oiler, you'll be able to oil overhead bearings without the dangerous and useless work of climbing a ladder among belts and pulleys. One of these oilers will pay for itself in a week's time.

The Nugent shaft oiler is a two quart oil can with a 1/8" I.P.S. aluminum tube spout as long as 12 feet. The spout can be bent to any desired angle.

Check your phone directory or write direct.

NUGENT TRADE MARK Est. 1897

Wm. W. Nugent & Co., Inc.
421 N. Hermitage Ave. CHICAGO, 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . Representatives in Principal Cities

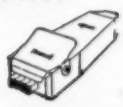
▲ Mention Item NED-1811 when writing ▲

ACROMARK MEANS "ACCURATE MARKING"

MARK— with

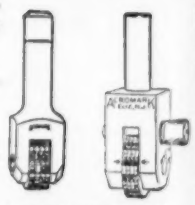
NAME-PLATE & PARTS STAMPING MACHINES

STEEL LETTER & FIGURE STAMPS

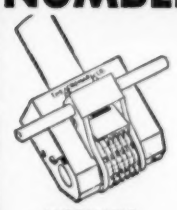


HERCULES HOLDERS & TYPE

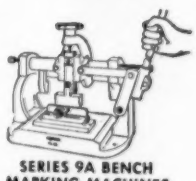
NUMBER— with



NON-AUTOMATIC NUMBERING MACHINES



AUTOMATIC NUMBERING HEADS



SERIES 9A BENCH MARKING MACHINES

POWER DRIVEN MARKING MACHINES

STAMP— with

STEEL HAND STAMPS

WRITE FOR LATEST LITERATURE AND PRICE LISTS

The ACROMARK Company
7-11 MORRELL ST., ELIZABETH 4, N. J.

▲ Mention Item NED-1812 when writing ▲

LOWER PRICES

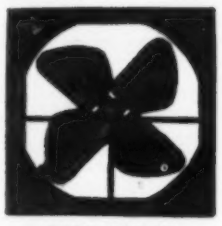
On EMERSON-ELECTRIC BELT-DRIVE

BALL-BEARING EXHAUST FANS

for Vertical or Horizontal Installation

Substantial price reductions on a complete line of Belt-Drive, Ball-Bearing Exhaust Fans (30- to 48-inch blades) make Emerson-Electric ventilation an even better-paying proposition in 1950! Special ball-bearing motors and shaft mountings give long, quiet service and permit mounting at any angle. Take advantage of Emerson-Electric's 60 years of fan experience . . . see your electrical contractor, or write for Bulletin No. 528.

THE EMERSON ELECTRIC MFG. CO. • St. Louis 21, Mo.



BELT-DRIVE
exhaust fans come in 30, 36, 42 and 48-inch sizes, exhausting up to 19,350 CFM.

DIRECT-DRIVE
exhaust fans are available in 5 sizes, from 12 to 30 inches, with ball- or sleeve-bearing motors.

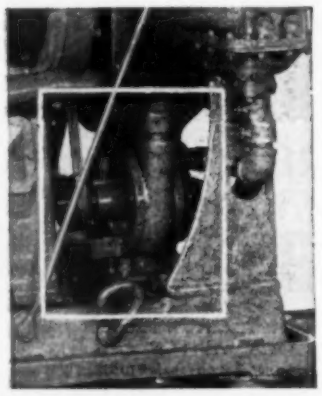
EMERSON ELECTRIC
MOTORS • FANS APPLIANCES

▲ Mention Item NED-1813 when writing ▲

BUDGET CUTTING

is important for '50

No matter what other costs may be zooming, you can keep replacement costs of tools down . . . when you cool tools and work with



TRADE MARK "FULFLO" REG. U. S. PAT. OFF.

COOLANT PUMPS

Photo shows FULFLO pump circulating cooling water of engine built by Universal Motor Co., Oshkosh, Wis.

Pipe sizes from ⅜" to 1½". Right or left rotation. Direct, belt or motor drives.

BY-PASS, OIL-RELIEF VALVES

For maintaining constant, uniform pressure. CHATTERLESS. Pipe sizes ¼" to 2", standard pipe thread. STD 300# American Flange Valves 1" to 2½".

A line on your letterhead will bring you free THE FULFLO MECHANICAL DATA BOOK.

THE FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO

▲ Mention Item NED-1814 when writing ▲

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*

SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ Mention Item NED-1815 when writing ▲

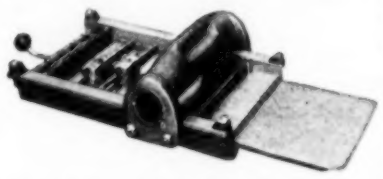
VOLUME WATER HEATER
provides dish sterilizing water

Having input capacity of 40,000 Btu per hour, gas-fired Burkay 180 water heater stores 4½ gal of 180° F sanitizing water for rinsing dishes and other uses. It normally takes water from building's warm water source. Since it measures 30 in. high and has 16-in. diameter, heater can be installed under counters or in other confined areas. Unit requires little piping and is approved by AGA. Unitrol affords full range temperature control with single dial. Made by **A. O. Smith Corp.**, Dept. NED-350, 1213 Norwood Ave., Toledo 7, O.

▲ Mention Item NED-1816 when writing ▲

SIGN PRINTING MACHINE
prints all cards up to 7 x 11 in.

Capable of handling most showcard or sign requirements, Showcard model 7-11 machine serves as complete sign shop for small establishment or as auxiliary unit for larger user. It prints type, halftones or electrotypes, in several colors if desired, horizontally, vertically or at an angle on cards, cloth, paper, cellophane and other materials. While low in cost, machine is sturdily constructed of cast steel, has permanently lubricated bearings and is easily operated. It is furnished with supply of type, inking rollers, and type rack. Made by **Showcard Machine Co.**, 1196 Merchandise Mart, Chicago 54, Ill.



▲ Mention Item NED-1817 when writing ▲

PORTABLE ELECTRIC PLANT
unit is rated at 1000 w a-c

Powered by 2¼-hp Briggs & Stratton air-cooled gasoline engine, model 30-E portable electric plant has spring mounted base, one or two-man carrying handle and four 10-amp twist type load receptacles. Although unit weighs but 85 lb, it can be furnished with two-wheel dolly if desired. It is designed for providing energy for job-lighting at night and operation of small power tools, blowers and pumps. Made by **Empire Corp.**, 710 N. Plankinton Ave., Suite 511, Milwaukee 3, Wis.

▲ Mention Item NED-1818 when writing ▲

Answer These QUESTIONS to YOURSELF

1. Are you competitive price-wise?
2. Is your profit satisfactory?
3. Is 30% or more of your product's cost spent in material handling?

Industrial CRANES

Let us survey your material handling and storage problems. We will be glad to extend this service to you without obligation.

INDUSTRIAL EQUIPMENT CO.
327 NORTH ADA STREET CHICAGO 7, ILLINOIS
Write for Catalog. Representatives in Principal Cities.
OVERHEAD CRANES • JIB CRANES • MONORAIL SYSTEMS • CONVEYORS

▲ Mention Item NED-1819 when writing ▲

AAF Electro-MIST
removes Oil "Smog" hazard

OIL "smog" resulting from high speed machining operations hampers worker visibility, makes for added maintenance and constitutes a fire hazard. But you can eliminate this hazard at the source with an AAF Electro-Mist. This electronic collector removes smoke, oil and the smallest impurities from the air—pays its way by salvaging two to five gallons of oil daily.

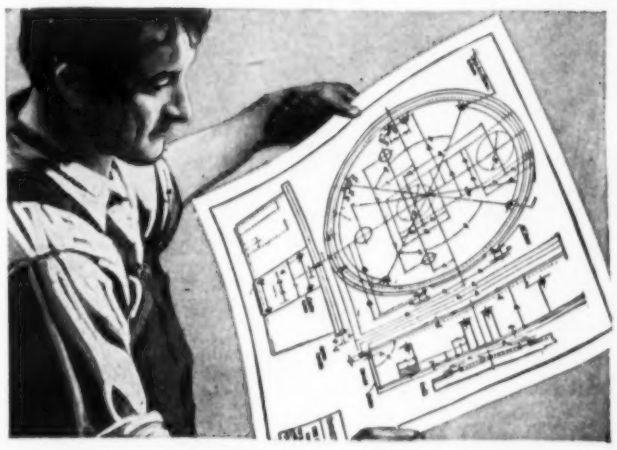
The AAF Electro-Mist is a self-contained and demountable unit designed for floor or overhead mounting. Removable plate assemblies make for easy cleaning. Write for copy of Bulletin No. 251.

AMERICAN AIR FILTER COMPANY, INC.
391 Central Avenue, Louisville 8, Ky.
In Canada: Darling Bros., Ltd., Montreal, P. Q.

AAF
AIR FILTERS
AND DUST CONTROL EQUIPMENT

▲ Mention Item NED-1820 when writing ▲

DRIPRINT
TRADE MARK



The *Better* Dry-Developed Paper for *Better* Prints

Improvement has followed improvement in the chemistry of print-making papers and processes. Only frequent comparison of the many methods and materials available can bring you the real benefits of this progress. If you are a user of direct positive prints produced by ammonia vapor development, or are interested in adopting this process, be sure to try Dietzgen's DriPrint, the *better* dry-developed paper, and *see* the difference. May be used with any make of high-speed printing and developing equipment. Superior contrast, firm full-bodied lines with clear white backgrounds . . . reliable uniformity . . . time-saving speed . . . these desirable features have made Dietzgen's DriPrint the specified choice of thousands of discriminating print users. A better paper at no extra cost. Available in cut sheets or rolls. Ask your Dietzgen dealer or nearest Dietzgen office for a demonstration.

EUGENE DIETZGEN CO.
Chicago • New York • San Francisco • New Orleans
Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee
Dealers in All Principal Cities

DIETZGEN
DRAFTING, SURVEYING & PRINT-MAKING MATERIALS, INSTRUMENTS & EQUIPMENT

▲ Mention Item NED-1821 when writing ▲

NEW SAFETY STEP-LADDER IS SAFE, CONVENIENT, DURABLE

Casters carry ladder but rubber-tipped legs "lock" to floor when in use.

You can increase storage capacity of floor area, speed stock and pick-up operations when Ballymore Safety-Step Ladders are used in store- and file-rooms. Of all-steel construction, these ladders are strong, yet easily moved along aisles as casters automatically engage when no one is on the ladder. Danger of the ladder starting to roll when in use is eliminated automatically.

Baskets, which are optional equipment on handrail models leave both hands free, make possible larger loads, fewer trips. One- and two-step ladders have no handrails, three-step ladders are supplied with or without handrails. Four- and six-step ladders have handrails.

WRITE TODAY FOR FREE ILLUSTRATED CATALOG

THE BALLYMORE COMPANY

7 S. Roberts Road, Bryn Mawr, Pa.

▲ Mention Item NED-1824 when writing ▲

The SHORTEST OVERALL LENGTH PALLET TRUCK

Only 23½" from back of battery to the front of truck

GOES More PLACES

MOTO-PALLET TRUCK

4,000 lbs. capacity. Operates in narrower aisles. Made in 12 volts for level operation, 18 volts for ramp operation.

MOTO-TRUC MOTORIZED BATTERY OPERATED Walkie PALLET TRUCK

EASIER CONTROL, TOO! Easy grip roller type handle gives two speeds forward and two speeds reverse by a turn of the wrist. Push buttons in the ends of handle operate the hydraulic lift. **SMOOTH MOVEMENT OF LOADS.** Patented Nydegger shackles on load wheels insure smooth travel over uneven floors, elevator door openings, etc.

MOTO-TRUCS ARE SAFE. Low battery mounting prevents tipping. Dead man controls are real protection for operator.

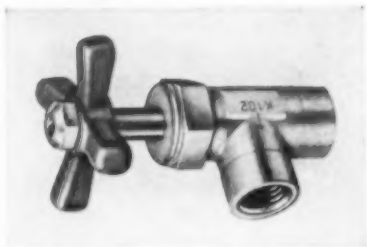
LOW MAINTENANCE due to high grade, rugged construction and quick accessibility to all working parts.

Write for Circular PAL-265

The MOTO-TRUC Co.
1953 E. 59th Street
CLEVELAND 3, OHIO.
ORIGINATORS OF MOTORIZED HAND TRUCKS

▲ Mention Item NED-1825 when writing ▲

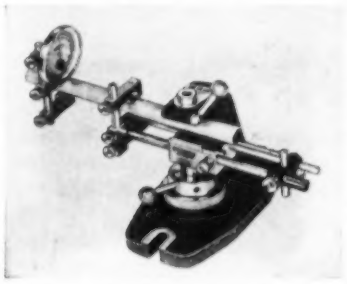
ANGLE NEEDLE VALVE
has tube or pipe thread connections



Affording easy finger operation, K-102 angle needle valve eliminates stem leakage. Body is forged aluminum, and stainless steel stem is ground to form perfect seat. Valve is obtainable with ¼ and ⅜-in. tube connections, ⅛ and ¼-in. pipe thread connections or any of these in combinations. Made by **Kohler Co.**, Dept. 2, Kohler, Wis.

▲ Mention Item NED-1826 when writing ▲

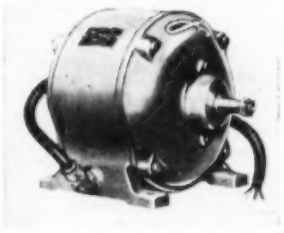
UNIVERSAL DRILLING TOOL
simplifies exact drilling of parts



Round, square, flat or hexagonal workpieces can be drilled accurately within 0.0003-in. with this Reglus universal drilling tool. With accessories it drills holes at predetermined intervals, adjacent holes for making slots, holes at any radial angle and holes in balls. Because tool is automatically centering, it eliminates tracing out and center punching. It holds workpieces up to 1¾ in. in diameter and accommodates series of cylindrical drill bushings having drill holes ranging in diameter up to 15/32-in. Accessories include V-mount for holding pieces ranging in diameter from 3/32 to 11/32-in., cone mount for drilling balls having diameters up to 1⅜ in. and modified mount for drilling flat and eccentric pieces. Distributed by **Cosa Corp.**, 616-624 Chrysler Bldg., New York 17, N. Y.

▲ Mention Item NED-1827 when writing ▲

LOOM MOTOR
has prelubricated thrust bearings



Capable of withstanding severe shock and vibration encountered in high speed weaving, loom motor is available in ratings of ¾ to 2 hp in 214 and 216 frames for use on old style looms and also in new NEMA 224Y and 225Y frames for installation on new looms. It is designed so that loom can utilize fully kinetic energy of large diameter rotor, and cyclic peaks of power are minimized without use of external flywheels. Relatively high slip design dampens vibration and reduces whip of crankshaft during reverse movements of lay and affords uniform beat-up.

Illustrated motor is of 216 frame and is rated 1 hp at 1735 rpm. Construction permits it to be used as replacement for older style loom motors and to convert group-driven looms to individual motor drives. This unit is suitable also for new high speed looms. Made by **Louis Allis Co.**, 428 E. Stewart St., Milwaukee 7, Wis.

▲ Mention Item NED-1828 when writing ▲

MAGNETIC TAPE RECORDER
records and plays back programs up to 1 hour long on 1200-ft tape

This Knight magnetic tape recorder is recommended for taking inventories, recording important conferences and use as teaching aid in sales and production training programs. Its 1200-ft tape provides full hour's recording and can be used over and over. Machine employs one control for tape transport mechanism which has three positions: record-play, off, and rewind. Recording speed is 7½ in. per second and rewind speed 150 in. per second. Features include switch that permits muting speaker when recording from microphone, constant speed capstan drive and neon bulb indicator which permits maintenance of proper recording level.

Recordings can be made from microphone supplied or from any radio, FM tuner or phonograph. Recorder is complete with built-in high gain amplifier and PM speaker for playback, has provision for connection to external amplifier and speaker, and can serve as medium coverage PA system with output of 5 w. Made by **Allied Radio Corp.**, Dept. N-D, 833 W. Jackson Blvd., Chicago 7, Ill.

▲ Mention Item NED-1829 when writing ▲

Made to YOUR SPECIFICATIONS

TOPFLEX

A NEW ITEM IN THE TOPFLIGHT TAPE LINE

(TOPFLEX TAF-56)

Here is a pressure-sensitive, strong and sturdy printed tape. Resists moisture, temperature extremes and abrasion. It has been developed to fill a definite need.

METHODS ENGINEERS WROTE THE SPECIFICATIONS

A number of industrial tape users asked for a tape superior to the cellophane and acetate fibre tapes commonly used, yet with their basic characteristics.

EXCLUSIVE TOPFLIGHT PRODUCT

From these requests and specifications, Topflight Tape spent many months in research and experimenting and constructed this superior product. Only Topflight produces this tape. No other firm can supply it.

HAVE YOU BEEN WAITING FOR TOPFLEX?

Let us tell you more about this new product. Let us show it to you. We would like you to run your own test. Write.

TOPFLIGHT TAPE COMPANY
YORK, PENNSYLVANIA

▲ Mention Item NED-1830 when writing ▲

KEEP ELECTRIC MOTORS On the Job!

IN EVERY MAJOR INDUSTRIAL CENTER, from Maine to California, you'll find an outstanding Allis-Chalmers Certified Service Shop to give you *prompt, skillfull* motor repair service! The shop to which you go will be selected for its reliability and excellent repair facilities. It will use nothing but factory approved methods and parts.

So next time you're looking for a way to cut lost production hours and get rolling again, fast — call the A-C Certified Service shop in your area. You'll get fine workmanship, fast service, fair prices. A-2927

ALLIS-CHALMERS, 918A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

▲ Mention Item NED-1831 when writing ▲

HANSEN

"PUSH-TITE" PNEUMATIC-HYDRAULIC COUPLINGS

Positive shut-off in socket immediately upon disconnection by removal of plug. To connect, simply push plug into socket. To disconnect, merely pull back sleeve. Holds high pressures. Swivel action prevents hose kinking. Pipe or hose connections. Socket, brass; plug, steel. Size range ⅛" to 1".

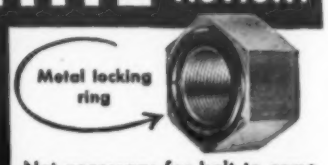
Also straight-through, and two-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

▲ Mention Item NED-1832 when writing ▲

HERE'S POSITIVE LOCKING ACTION!

Cross-section of An-cor-lox and bolt showing locking ring after flattening.



Not necessary for bolt to come through nut. Locking ring on bottom of nut.

Thread fit NOT important.

Vibration and shock will not walk nut off—will only force locking ring farther into bolt threads.

Bolt stretch, wear, moisture do not affect gripping power.

Up to softening point of the metal, high temperatures do not lessen locking grip.

Crushed locking ring prevents passage of gas and liquids.

Nut can be re-used many times.

Available in high, thin, cap or spanner designs.

SEND for TEST SAMPLES and CATALOG

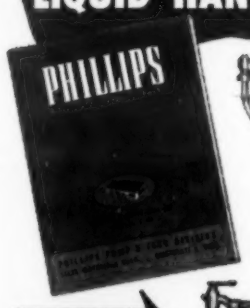
An-cor-lox TRADE MARK REGISTERED *Lock Nuts*

LAMINATED SHIM CO., Inc. *An-cor-lox Division,* 2303 Union St., Glenbrook, Conn.

AN-COR-LOX NUTS • SHIMS • SHIM STOCK • STAMPINGS

Mention Item NED-1833 when writing

THIS BOOK SOLVES YOUR LIQUID HANDLING PROBLEMS



THIS WAY

Fully describes Phillips Hand Operated Quart Stroke Barrel Pumps. Attaches to any barrel with a 1½ or 2" threaded opening... for handling oil, alcohol, turpentine. Model 19 with swing return drain shown.

THIS WAY

Shows various Phillips Hand Operated Gallon Stroke Barrel Pumps for 1½ and 2" threaded openings. Model 174 shown is ideally suited to lubricants and coolants.

Describes Phillips Tank Units with Hand Operated Gallon Stroke Pumps. Tank of Model 81 shown is 20 x 27 x 30" high. Ideal for battery installation. Can be supplied with casters or dolly for movement to any location. Other sizes available. **Write for prices and FREE Catalog—today!**

THIS WAY

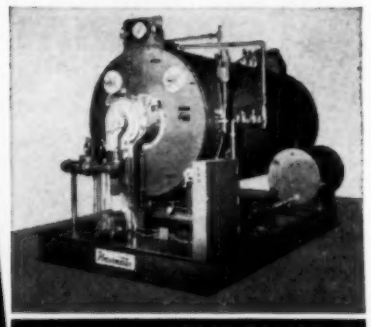
DEPENDABLE PHILLIPS SERVICE STATION EQUIPMENT

PHILLIPS PUMP & TANK CO.
5020 Bretherton Rd. Cincinnati 9, Ohio

Mention Item NED-1834 when writing

LOW-COST POWER & HEAT

FOR:
Bottling Works
Chemical Plants
Dairies
Food Processors
Hosiery Mills
Institutions
Meat Packers
Metalworking Plants
Plastic Mfrs.
Public Buildings
Textile Mills
Etc.



ORR & SEMBOWER *Powermaster*® STEAM GENERATORS

- High efficiency cuts fuel costs as much as 40%
- Packaged design saves excessive installation costs
- Automatic operation frees engineer for other duties
- Mounted on steel base—no bricking required
- Delivered fully wired and factory-tested
- Widespread service by factory-trained men

High and low-pressure units—15 to 300 HP.—for light oil, heavy oil, gas or combination gas-oil firing. Free catalog mailed promptly—address:

ORR & SEMBOWER, INC.
930 Morgantown Road, Reading, Pa.

Mention Item NED-1835 when writing

CONVEYOR SAFETY CUTOUT provides protection from overloads

By means of overload safety cutout, electric motor is shut off instantly when conveyor or machine is overloaded and is reset automatically ready for immediate operation. Designated Junior model size O, this cutout will handle capacities from 20 to 150 in-lb. Unit has dust-tight and drip-proof case, is lubricated for life and requires minimum of maintenance. It can be used in atmospheres containing water, oil and acid and can be installed outdoors. Cutout is furnished with Micro-limit switch and choice of drive. Made by **Anchor Steel & Conveyor Co.,** 6908 Kingsley Ave., Dearborn, Mich.

Mention Item NED-1836 when writing

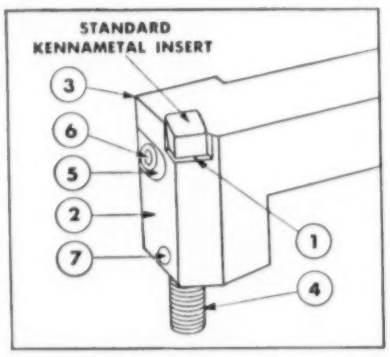
BARREL TRUCK handles loads weighing up to ½-ton

Of double center column type with handle bar grips, heavy-duty model No. 60 barrel truck is designed to handle wood barrels and steel drums. Wheels of 10-in. diameter have molded-on rubber tires and employ Hyatt roller bearings. Frame is made of structural angles; center posts and handles are 1-5/16-in. steel tubing. Chime hook is adjustable to permit handling drum or barrel of any height. Made by **Buffalo Caster & Wheel Corp.,** Dept. K, 182 Breckenridge St., Buffalo 13, N. Y.

Mention Item NED-1837 when writing

CARBIDE TOOL HOLDER can be used for multiple setups

Broached hole enclosing Kennametal insert imparts strength and accuracy to this Kennamatic tool holder. It features solid backing for insert in direction of cutting forces and heat treated alloy steel shank which resists distortion and chip erosion. Large hollow friction lock back-up screw permits insert to be pushed out without removing screw. Clamping supplements cutting forces rather than opposing them. Front wrenching allows multiple setups since clamp screw is always accessible. Made by **Kennametal Inc.,** 171 Lloyd Ave., Latrobe, Pa.



Mention Item NED-1838 when writing

PRODUCTION GOES UP! COSTS GO DOWN!

when you protect your workers with OLYMPIC GLOVES

Steel ribbons, horizontally placed, reinforce all wearing surfaces of this rugged Olympic chrome leather gauntlet. (No. 330C). Special palm patch gives added protection without loss of flexibility . . . thumb reinforced with patch strap . . . 2 in. cuff protects wrist . . . glove entirely sewn with steel. These features, typical of the outstanding Olympic glove line, produce long-wearing qualities at low cost.

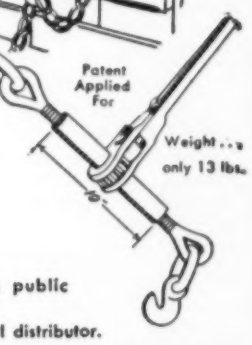
Remember—Olympic has a glove to fit every job!

FREE *Illustrated Catalog of Safety Work Gloves, Finger Protectors and Safety Apparel sent to Business Organizations on request.*

OLYMPIC GLOVE COMPANY INC.
95 MADISON AVE., DEPT. 10 NEW YORK 16, N. Y.

Mention Item NED-1839 when writing

A NEW Standard for LOAD-BINDERS



Ratchet-Type Load Binder Operates Safely-Easily

No kick-backs
Binds load easily
Full 8-inch take-up
One man operation
Inexpensive - durable
No readjusting of load
Added protection for traveling public
Greater safety for operator

Write direct or see your local industrial distributor.

American FORGE AND MANUFACTURING CO.
812D Shore Avenue • Pittsburgh 12, Pa.

Mention Item NED-1840 when writing

Titan ELECTRIC HOIST

GIVES YOU FASTER, MONEY SAVING, EFFORTLESS LIFTING. REMOVES THE BURDEN AND HAZARDS OF HAND HANDLING.

Light, compact, easily moved about. Plug it in most anywhere; available for single or three phase electric current.

The little hoist with Big Hoist Construction; has Steel Wire Hoisting Rope—not chain; Cone Worm Drive, Electric Solenoid Brake, Automatic Hook Travel Limit Stop, Push-Button Control.

BUILT TO STAY ON THE JOB

The Titan is a precision built hoist, built to handle full load without strain, falter or failure. Built to eliminate maintenance and repair parts and out-of-service time. Built to a Quality Standard that eventually gives most for *your* money.

PROVEN ON THE JOB

A quote from a Titan User: "3 times its cost recovered in less than two years use; no repairs or replacements."

LOTS OF PLACES WHERE TITAN HOISTS CAN SAVE MONEY

Most every plant has spots where a Titan will pay back its cost in a short time. They are doing it daily.

Investigate the Titan Hoist
Write for Bulletin 801A

DETROIT HOIST & MACHINE CO.
8214 Morrow St., Detroit 11, Mich.
Request for Bulletin 801A

Company_____
Address_____
City_____ State_____

Mention Item NED-1841 when writing

Diameters to 30 inches

SPIRATUBE . . . the new *flexible tubing* . . . works efficiently both ways . . . *blowing . . . exhausting.*

A zephyr or a gale . . . you put air where you need it with SPIRATUBE. And SPIRATUBE-R's neoprene rubber cushion rides with the punch of abrasive solids. *It's the new conveying tube of industry.*

Every advantage you want . . . bends at any point . . . no ridges inside to obstruct air passage . . . light and easy to carry . . . quick to connect . . . extra strong . . . safe . . . retracts for easy stowage.

Let's discuss your problems . . . no obligation. New Engineering Catalog available. Send for your copy today.

149F

FLEXIBLE TUBING CORPORATION
MADE IN U.S.A.
SPIRATUBE
GRANFORD, CONNECTICUT, U.S.A.

▲ Mention Item NED-1842 when writing ▲

4 REASONS
DARTS DON'T DRIP

1. EVERY DART . . . is precision-machined to a true ball joint . . . then spherically ground to give wide, true-bearing surfaces. Reason why Darts are always leakproof.

2. EXTRA-WIDE BRONZE SEATS . . . resist pitting, electrolysis and corrosion . . . stay drop-tight.

3. EXTRA-HEAVY SHOULDERS . . . shrug off wrench abuse through dozens of installations.

4. PRACTICALLY INDESTRUCTIBLE . . . body and nut of air-refined, high test malleable iron resists stress, stretching and wrenching.

E. M. DART MANUFACTURING CO.
PROVIDENCE 5, RHODE ISLAND

▲ Mention Item NED-1843 when writing ▲

O.K. GANG SLITTER KNIVES
for longer service

Made in O.K. Battle Axe, Dura-Chrome or Standard Carbon Grades. Precision ground to ±.0002 tolerances on thickness, diameter and bore. Extremely high finish.
SPACERS for above in hardened or unhardened grade ground to same tolerances as Slitters.
We make rotary cutters similar to the one shown for trimming sheet steel, light plates. Some are made with bevels for cutting paper, rubber, plastic, cloth, etc.

O.K. ROTARY SHEARS & BLADES
for maximum toughness

The OHIO KNIFE Co.
CINCINNATI 23, OHIO, U. S. A.

CLIP AND MAIL TODAY

THE OHIO KNIFE CO., CINCINNATI 23, OHIO 4
Gentlemen: Please send without obligation specific data on knives I have checked.
☐ CIRCULAR KNIVES ☐ SHEAR BLADES
COMPANY_____
NAME_____
ADDRESS_____

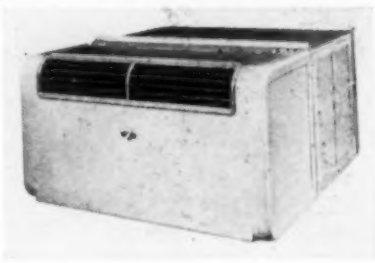
▲ Mention Item NED-1844 when writing ▲

ROOF VENTILATOR
permits uninterrupted flow of air

Designed for all types of industrial and commercial ventilation, Axial-Flo roof exhauster is low compact unit which harmonizes with present architecture and has welded heavy steel plate construction. Hinged cover of motor-driven fan in weatherproof housing permits access for inspection, maintenance and lubrication. Wheel is Axial Airfoil propeller type of cast aluminum alloy, with adjustable pitch blades ranging in diameter from 14 to 48 in. and air deliveries from 1000 to 40,000 cfm. Since exhauster is supported on rubber, vibration and noise are reduced to minimum. Made by **Chicago Blower Corp.**, 4559 W. Congress St., Chicago 24, Ill.

▲ Mention Item NED-1845 when writing ▲

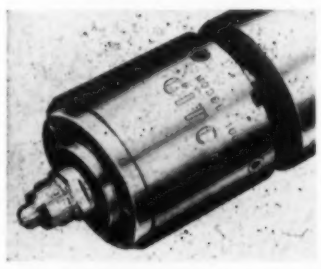
ROOM AIR CONDITIONER
is smoothly contoured window unit



Adjustable louvers in attractive grille of self-contained 1-hp air conditioner direct air to any part of room. Equipped with two separate Meter-Miser refrigerating systems, unit effects cooling, ventilating, filtering, dehumidifying and circulation of air. Since air is drawn in through bottom, unit can be installed easily in confined spaces and operates quietly. Filter can be slipped out through bottom of unit quickly. Made by Frigidaire Div., **General Motors Corp.**, Dayton 1, O.

▲ Mention Item NED-1846 when writing ▲

DIAMOND TOOL TURNER
adjusts to three ranges of degrees



By automatically repositioning diamond every 3½, 7 or 10½ degrees, model 1002-A Citco hydraulic diamond turner generates on diamond definite and consistent sharp edge. Turning impulses are timed to split segment on diamond face automatically at completion of turning cycle to maintain cutting edge throughout life of diamond. Turner is precision built instrument with all moving parts sealed in oil; and its use obviates burnt and shattered diamonds, saves wheel cost and reduces down time for dressing. Made by **Cleveland Industrial Tool Corp.**, 1080 E. 222nd St. S., Cleveland 17, O.

▲ Mention Item NED-1847 when writing ▲

VISCOSITY CONTROLLER
range is 2 to 50,000 centipoises

Designed for use where viscosity variations during production normally occur only in one direction, Viscotrol viscosity measuring, signaling and transmitting unit affords continuous and automatic control. It can be employed to control viscosity of one material or solution, to blend two or more materials to definite viscosity or to control processing to predetermined viscosity. Installation can be made on closed, open or pressure systems, either directly to present equipment or to added sample chambers or by-pass lines. Instrument will respond to any viscosity change within 1 per cent of control point for which it is set. High and low limit adjustments can be made separately to fulfill safety functions.

Motor and working parts are enclosed for protection against dust and corrosive fumes. Provision is made also for introducing continuous air or gas purge where unusually severe conditions are encountered. Spindles and connecting shafts can be supplied in whatever alloy is specified. Made by **Brookfield Engineering Laboratories, Inc.**, 004 Porter St., Stoughton, Mass.

▲ Mention Item NED-1848 when writing ▲

RADIO STATION WLW SAVES $975 on Air Filter Maintenance

HONAN-CRANE Oil

• At Radio Station WLW, Cincinnati, Ohio, filtered air is supplied to control rooms, studios and theatres by two Electro-matic American Air Filters . . . each handling 8,000 cubic feet of air per minute. Two Honan-Crane Oil Purifiers maintain a constant supply of clean, clear oil to the air filter oil baths. Since installing the Honan-Crane units, WLW has experienced annual net savings in air filter maintenance costs of $975. Honan-Crane installation paid for itself in first 6 months of operation.

▲ Mention Item NED-1849 when writing ▲

LEVEL OR

MATHEWS CONVEY
Engineering Sales Offices at Industr
ELLWOOD CITY, EN
SAN CARLOS, CALIFORNIA PO

▲ Mention Item NED-1850 when

MATERIALS HANDLING EQ
DESIGNED F

▲ Mention Item NED-1851 when

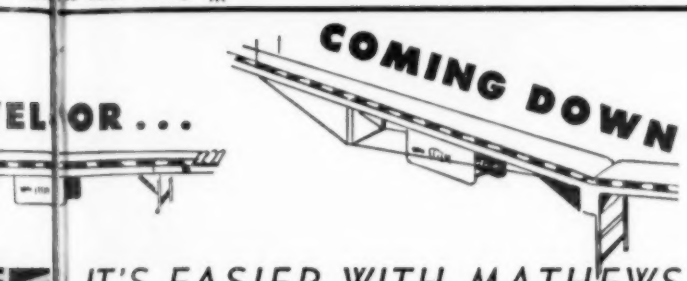
NE Oil Purification . . . for AIR FILTER SYSTEMS Saves money 2 ways!

Wherever *oil bath air filters* are employed, Honan-Crane oil purification eliminates costly sump cleaning operations and prolongs the life of oil formerly discarded because of contamination. Honan-Crane purification removes soot, fly-ash, dust and other air-borne particles washed from the filter screens by the oil bath . . . leaves oil clean and sludge-free to insure peak air filtering performance. No sludge to clean out . . . no need to shut down air filters for periodic cleaning . . . no oil changes necessary. In every Honan-Crane application, measured results show substantial savings in maintenance costs; equipment frequently pays for itself within a few months. Write today for complete information . . . or for consultation on your oil purification problems. Write to Honan-Crane Corporation, 405 Wabash Avenue, Lebanon, Indiana.

Honan-Crane Purification Equipment is Engineered for Diesel Fuel and Lube Oils . . . Turbine Oils . . . Metal Working Quench Oils and Coolants . . . Insulating Oils . . . Air Filter Oils . . . Cooking Oils and Fats.

HONAN-CRANE CORPORATION, Lebanon, Indiana
A Subsidiary of
DUDAILLE-HERSHEY CORPORATION

Mention Item NED-1849 when writing



IT'S EASIER WITH MATHEWS
PRE-ENGINEERED
BELT CONVEYERS

Have you a conveying problem? Moving packaged materials up, down or level? Whatever it might be, there is Mathews equipment available to solve it for you, and to save you money and time.

Mathews standardized Belt Conveyers are easily erected. And, if you need Portable Belt Conveyers, or sections of Roller and Wheel Conveyers, Mathews supplies them from its **complete line.** Engineered systems are given immediate attention by Mathews Engineers.

Send for problem-solving bulletins today!

MATHEWS CONVEYER COMPANY
Distributors in Principal Cities
ELIZABETH, PENNSYLVANIA
PORT HOPE, ONTARIO, CANADA

Mention Item NED-1850 when writing

LESS EQUIPMENT DESIGNED FOR *less* HANDLING!

WHEN you can take shortcuts in materials handling, resulting in *less* handling, you save time and money.

For example, the sturdy Union Metal dump box shown here fights waste motion! Its roll-over feature assures fast, easy, safe dumping. Four-way entry permits the fork truck to pick up the load from *any* side—an obvious convenience and time-saver. Finally, the box is also equipped for crane handling, for short operational spotting with a hand pallet truck, and for fast, compact tiering.

This is just one of the many different types of Union Metal boxes, skids, pallets and combinations . . . all engineered for efficient materials handling at its best. Write The Union Metal Manufacturing Company, Canton 5, Ohio, about equipment ideal for *your* needs.

UNION METAL
Materials Handling Equipment

Mention Item NED-1851 when writing

STEEL STRAPPING TRUCK
carries up to 150-lb strapping coil

Suitable for transporting and feeding heavy gages of round steel strapping coils, No. MS-400 easily maneuvered hand truck is usable from either horizontal or vertical position. Strapping can be unreeled either clockwise or counter-clockwise and is held in place without danger of accidental unreeling when loose end of coil is inserted in one of three holes in circular cover.

Strapping coil is placed on outside of three inverted U-shaped tubes, and circular cover is locked over coil. Locking arm is pushed downward as coil diminishes so that locking device continues to hold coil in place. When desired, coil is easily removed. Adjustable brake stops any free wheeling or accidental rotation of coil. Truck is equipped with rubber-tired roller-bearing wheels. Made by **Gerrard Steel Strapping Co.,** 2915 W. 47th St., Chicago 32, Ill.

Mention Item NED-1852 when writing

ADJUSTABLE SPEED DRIVE
¾ to 2-hp variable voltage types operate on single-phase a-c power

Designed for continuous operation with speeds infinitely variable from 290 to 2300 rpm at full rated output, this small V-S adjustable speed drive can be operated at speeds as low as 80 rpm for short periods or at light load. Supplied in ¾, 1, 1½ and 2-hp sizes, all-electric unit operates on 220-v ac but can be furnished for use with 110, 440 or 550 v. It provides stepless speed selection throughout operating range and can be used on equipment such as printing presses, conveyors, variable-flow pumps and machine tools.

Basic components are drive motor, control station and control unit. Motor is ball bearing type and is supplied in dripproof, enclosed, fan-cooled or explosionproof construction. Operator's control station houses start-stop pushbuttons, run-jog selector switch and speed adjuster. Control unit provides selective electronic rectification and includes enclosed contactors and overload relays to provide for desired functions of drive. Control can be centralized at machine or at any desired remote location.

Features include quick starting, and jogging and creeping speeds. Rapid dynamic braking and fast reversing are optional features which can be included. Made by **Reliance Electric & Engineering Co.,** 1082 Ivanhoe Rd., Cleveland 10, O.

Mention Item NED-1853 when writing

Because it's BLAW-KNOX "TWISTED BAR" Electroforged Steel Grating

THE twist does the trick—twisted bar construction gives greater traction, makes slipping impossible even if the grating is wet, greasy or icy. The slightly roughened surface grips shoe soles for *extra* safety, yet the over-all surface is level. Trucks and other wheeled vehicles roll freely. In addition, Blaw-Knox Steel Grating is electroforged into one piece for extra strength and durability.

OTHER ADVANTAGES: Maximum open area for light and air. Self-cleaning, easy to maintain, economical to install.

GET THE FACTS FROM BULLETIN 2296
Big new bulletin gives complete details, specifications, possible applications and all the outstanding advantages of Electroforged Steel Grating and Stair Treads. Write for your copy today!

BLAW-KNOX DIVISION of Blaw-Knox Company
2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

BLAW-KNOX ELECTROFORGED STEEL GRATING

Mention Item NED-1854 when writing

FLEXLOC
ONE-PIECE SELF-LOCKING NUTS
. . . WON'T SHAKE LOOSE!
. . . ELIMINATE "NUT" TINKERING!
. . . REDUCE MAINTENANCE COSTS!

Every day we learn of more FLEXLOC Self-Locking Nuts being used in Industry because they are superior fasteners and reduce maintenance costs. Here is a nut that the most chattering vibration won't budge, yet which can be removed easily when desired. And in addition, the strong, one-piece FLEXLOC has no extra parts to lose or forget.

So, why not try FLEXLOC Self-Locking Nuts for your maintenance? Find out for yourself how they eliminate "tinkering" with plain nuts and save valuable maintenance time.

Send for samples and our Catalog 619-A.

See us at Booths 128 to 138 inclusive, A.S.T.E. Exposition April 10-14, Convention Hall, Phila.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 24, PENNSYLVANIA

Mention Item NED-1855 when writing

Save time and money! Fit the relay to the job—NOT the job to the relay!

Choose from the largest, most diversified line on the market. Let Struthers-Dunn engineers recommend *exactly* the right relay for your application.

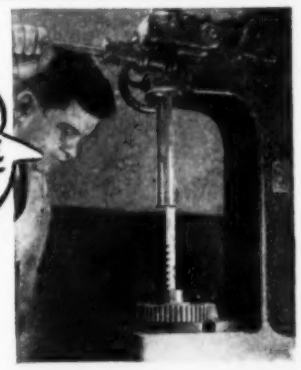
Write for Catalog G —a quick guide to the most widely used of Struthers-Dunn's 5,348 relay types.

STRUTHERS-DUNN

Struthers-Dunn, Inc., 150 N. 13th St., Philadelphia 7, Pa.
BALTIMORE • BOSTON • BUFFALO • CHARLOTTE • CHICAGO • CINCINNATI
CLEVELAND • DALLAS • DETROIT • KANSAS CITY • LOS ANGELES
MINNEAPOLIS • MONTREAL • NEW ORLEANS • NEW YORK • PITTSBURGH
ST. LOUIS • SAN FRANCISCO • SEATTLE • SYRACUSE • TORONTO

Mention Item NED-1856 when writing

YOU CAN CUT A KEYWAY FOR LESS THAN A DIME

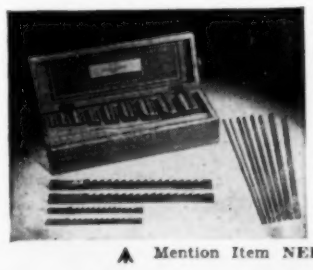


with the duMONT *Minute Man*® KEYWAY BROACH

With one *Minute Man* Broach and Bushing, costing only $8.25, you can cut 100 keyways in gears, milling cutters, pulley hubs, collars, couplings, etc.

With *Minute Man* Kits you can cut keyways from 1/16" to ¾" wide in bores from ¼" to 3" by 1/16" steps.

For the whole story
MAIL THE COUPON



The du MONT CORPORATION,
Greenfield, Mass.
Please mail me Descriptive Folder and Price List D.
Name .....
Company .....
Address .....

Mention Item NED-1857 when writing

30 SECOND BLADE CHANGES

Kalamazoo

METAL CUTTING BAND SAW

KALAMAZOO MODELS — 816-S — 824-S (COOLANT EQUIPMENT AVAILABLE)

30 Second Blade Changes!

30 seconds is all it takes to change blades on the Kalamazoo! This is but one of many Kalamazoo "exclusives" giving you greater operating ease—faster, more accurate, and lower-cost cutting of bars, angles, tubes, pipe and rounds.

Handles 95% of all cutting jobs. No burr. Minimum kerf. Sturdy, rugged, completely portable. Write for details today.

MACHINE TOOL DIV. Kalamazoo TANK and SILO CO.

324 HARRISON STREET • KALAMAZOO 16, MICHIGAN

Mention Item NED-1859 when writing

SLIPS DO COUNT. About 20% of all compensation claims result from accidents on slippery floors.

You can stop this cause of painful, costly injuries, of lost man-hours and lowered production by a simple and inexpensive application of Ferrox.

Simply trowel this plastic-abrasive composition on potential danger spots—ramps, walkways, platforms, washroom floors, wood, concrete or metal—and you have underfoot safety. Ferrox has proved the general purpose safety floor-maintenance material—safe indoors or outdoors—wet, dry or oily. One gallon covers 40 square feet.

Take a walk around your plant now and let your feet tell you where Ferrox can save you both time and money. Send your trial order today: $7.50 per gallon in 1-gallon cans; $7.25 per gallon in 5-gallon cans.

AMERICAN ABRASIVE METALS CO. 460 Coit Street Irvington 11, N. J.

Mention Item NED-1860 when writing

YES... YOU CAN HEAR IN NOISY SPOTS

USE Burgess-Manning ACOUSTI-BOOTHS

You can hear easily . . . talk comfortably . . . in a Burgess-Manning Acousti-Booth. Thick walls of sound-absorbent material soak up noise. Conversations are clearer . . . "private." Airy, no door . . . easily moved . . . sturdy construction.

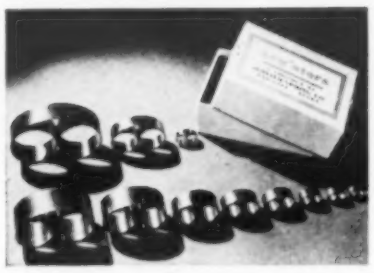
Mail Coupon for FREE BULLETIN

BURGESS-MANNING COMPANY
743-C East Park Avenue, Libertyville, Illinois
Please send booklet describing Burgess-Manning Acousti-Booths.

Name _____
Firm Name _____
Street-City _____

Mention Item NED-1861 when writing

COIL TYPE CLAMP KIT
holds one each of 11 standard sizes

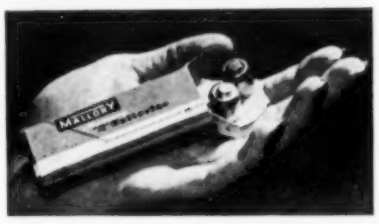


Trial kit No. NC-11 of 11 different Neg'ator one piece coil-form gripping devices is offered to aid in investigating possible uses and determining which styles and sizes best suit particular requirements. Sizes included have clamping pressures from 5 oz to 18 lb, automatic take-up of 0-3¼ to 0-20 in., widths from ¼ to 1¼ in. and coil diameters from 5/16 to 2 in.

Constant force-deflection characteristic of these clamps results in constant pressure regardless of thickness of object held. Extreme flexibility possible in spotting clamping pressures is such that device can actually be used around corner. Price of kit is $3. Made by **Hunter Spring Co.**, Dept. NED, 1 Spring Ave., Lansdale, Pa.

Mention Item NED-1862 when writing

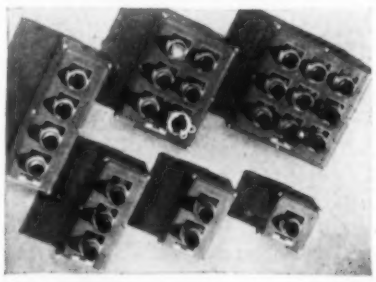
SMALL BATTERIES
capacity is 1000 milliampere-hours



Measuring 0.625-in. in diameter by 0.644-in. high and weighing 0.39-oz, Mercury A batteries designed for hearing aids are available for general applications. They have long shelf life, uniform discharge voltage, high ratio of energy to volume and weight, resistance to impact and acceleration, and constant no-load voltage. They can operate under extreme pressure and temperature ranges, are leakproof and dimensionally stable, and resist humidity and corrosion. Made by **P. R. Mallory & Co.**, 3027 E. Washington St., Indianapolis 6, Ind.

Mention Item NED-1863 when writing

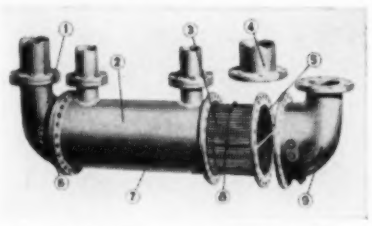
CONTROL STATIONS
oil-tight units for machine tools



Usable for alternating or direct current control applications in models for up to 600-v service, type OT Oil-Tite control units and stations employ resilient gasket to seal against entrance of oil, coolant, cutting compound and water. Contact blocks are double-break spring-return type with solid silver contacts. All terminals are easily reversed for front or rear connection. Five contact arrangements are available: single-pole double-throw, double-pole double-throw, double-pole normally open, double-pole normally closed and tandem assembly. Operating heads are supplied in five types: standard and mushroom head pushbuttons, and standard, coin-slot and Select-O-Push selector switches. Indicating lights are obtainable in six standard colors. Operating heads and contact blocks are both interchangeable. Units and nameplates can be rotated to permit surface or cover-mounting in any position. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

Mention Item NED-1864 when writing

HEAT EXCHANGER
tube bundle is removable



Comprising single and two-pass models in wide range of capacities, line of removable tube bundle type R shell and tube heat exchangers utilizes corrosion-resistant Admiralty metal tubing. Engineered tube spacing and baffling and tube sizes of ⅜ and ⅝-in. provide long life, easy maintenance and maximum heat transfer efficiency. Standardized units are designed to perform under maximum operating pressure of 75 psi and temperatures up to 300° F.

Exchangers are designed for engine jacket water and lubricating oil cooling and oil cooling in bearings, machine tools, reduction gears, pumping units, turbines, transformers, industrial hydraulic equipment, generator sets etc. They can be used also for fresh water; salt water and torque converter fluid for power cranes, busses, trucks, oil field drilling rigs and other equipment. Made by **Young Radiator Co.**, 729 Marquette St., Racine, Wis.

Mention Item NED-1865 when writing

SPRING PRESSES

POWER AND FOOT OPERATED

For riveting, staking, stamping and similar operations on small light parts. Constructed to compensate for variation in thickness of the work and to deliver a UNIFORM BLOW AT EVERY STROKE.

M-110 (illustrated) motor driven to eliminate fatigue factor of foot operated press—similar press M-130, equipped to operate by compressed air.

SEND FOR BULLETIN

EST. TF 1834

THE TAYLOR & FENN CO. HARTFORD 1, CONN.

Mention Item NED-1866 when writing

McGILL always on guard

Model 5025-SR.

GREATER STRENGTH CUTS RISK OF LAMP BREAKAGE

Buy McGill lamp guards and you've got the best . . . the strongest . . . the longest lasting guards you've ever seen. Compare McGill with any other guard. Point for point — in cages, handles, sockets or cords — you will see the superiority of McGill that means longer service and better protection from lamp breakage. No matter what your guard needs may be, there is a built-to-be-better McGill lamp guard to fit the bill exactly.

Model 7000-SR

The most popular series made. Has strong wire cage and molded rubber handles. Strain relief disc protects cord terminals. The same construction with wooden handles is available in the 8000 series.

"AVAILABLE FROM YOUR ELECTRICAL WHOLESALER"

For McGill Catalog No. 49 write to McGill Mfg. Co., Inc., 151 N. Campbell St., Valparaiso, Indiana.

McGILL® electrical specialties

ONLY McGILL MAKES Levolier SWITCHES

Mention Item NED-1867 when writing

GRAVITY CONVEYOR FOR SMALL ITEMS

¾" O.D. ROLLERS SPACED 14 TO THE FOOT

Puts Gravity Power to Work for—Manufacturers of—

- Confections
- Packaged Foods
- Drugs & Cosmetics
- Small Metal Parts
- Die Castings, etc.

Use "Free Gravity Power" in Production Lines

SPECIFICATIONS ON REQUEST

METZGAR CONVEYORS

METZGAR CO.
416 Douglas, N. W.
GRAND RAPIDS 4, MICH.

Mention Item NED-1868 when writing

ONLY $215* FOR THE GREEN ENGRAVER . . . yet it's fast, versatile and rugged enough for die steel

The Green Engraver offers great speed and convenience. Quickly cuts up to four lines of letters from 3/64" to 1" on curved or flat surfaces whether made of metal, plastics or wood . . . operates by merely tracing master copy—*anyone* can do an expert job. Special attachments and engineering service available for production work. Just the thing for radio, electronic apparatus and instrument manufacturers. Write today for details.

For *quality* engraving on

• Panels • Scales • Name Plates
• Lenses • Molds • Dials • Instruments

. . . also does routing, profiling and three dimensional modeling.

*Price does not include master type and special work holding fixtures.

GREEN INSTRUMENT CO.
375 Putnam Ave. Cambridge, Mass.

Mention Item NED-1869 when writing

PIPE VISE

plus . . . a handy work bench

RIDGID Tristand's tray keeps all your tools in easy reach

● No stooping, less fatigue and speedier work now that you don't have to bend over every time you change tools. New tray attaches in a jiffy, makes Tristand rigid so it can't fold up in use. Legs have rubber feet to prevent creeping. RIDGID's LonGrip tool-steel jaws won't slip, won't mar polished pipe and tubing. Yoke vise, 2½" capacity; chain vise, 4." Buy new work-saver RIDGID Tristands from your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL CO. • ELYRIA, OHIO

Mention Item NED-1870 when writing

COATING THICKNESS GAGE range is 0.001 to 0.0045-in.

Special - purpose Magne-Gage measures thickness of nickel coatings on iron or steel by magnetic means without injuring coating or base metal. This measurement range is beyond that of standard Magne-Gage which measures thicknesses from 0 to 0.002-in. and can not be supplied on Magne-Gages having other calibrations. Made by **American Instrument Co.**, 8010 Georgia Ave., Silver Spring, Md.

Mention Item NED-1871 when writing

VARIABLE SPEED MOTOR is totally enclosed fan-cooled unit

This variable speed Speed-Trol motor is now available in Klosd-Tite fan cooled design. External fan protected by streamlined cover provides ample cooling. Unit is suitable for applications located in dusty or damp places such as rock and gravel plants, flour mills, grain elevators and automobile factories. Features include fingertip control of speed with large easy-to-read speed indicator that allows infinite speed adjustment through mechanical, electrical or lever-type controls and integration of pulleys, shafts and belts in one compact unit for ease of installation. Made by **Sterling Electric Motors, Inc.**, Dept. NED, Telegraph Rd. at Atlantic Blvd., Los Angeles 22, Calif.

Mention Item NED-1872 when writing

STRAIN RELIEF BUSHINGS made from high temperature nylon

Tight electrical cord connections are assured when Nos. 4-P and 5-P Heyco strain relief bushings are used to absorb push, pull and torque. Bushings are fabricated from Du Pont nylon and are not affected by heat up to 400° F. They are Underwriters' Laboratories and CSA listed and approved. Applications include use on such products as electric toasters, radios, polishing machines and instruments. Made by **Heyman Mfg. Co.**, 99 Michigan Ave., Kenilworth, N. J.

Mention Item NED-1873 when writing

NEW LAWLOR MODEL 12-W HAS ADJUSTABLE HANDLE

With this new streamlined Lawlor, operators can now scrub, wax-polish floors under desks, machines, lockers, etc. Handle can be raised or lowered to any angle within an 80 degree arc. Strongly made in the Lawlor tradition for long, satisfying service.

Write for details about the 12-W and other Lawlor Equipment.

The Model 12-W is only one of the complete Lawlor line of quality floor maintenance units to take care of any kind and size floor.

S. C. LAWLOR CO. Quality Floor Equipment for 50 Years
131 N. Aberdeen St., Chicago 7, Ill.

Mention Item NED-1874 when writing

EASIEST WAY OUT OF A TIGHT SPOT

"YANKEE" *Offset Ratchet Screw Driver*

If there's an inch of clearance above or below the screw and room alongside to move your hand even half an inch, you can drive or draw that screw easily, quickly with a "Yankee" Offset Ratchet Screw Driver No. 3400. Only 3⅞" long, yet it has the power of a heavy, rigid 8" driver, will seat even a No. 14 screw. Two blades, ¼" and ⅜". Special alloy steel, hardened and tempered. Other models—No. 3800 for larger screws, No. 3423 for Phillips Screws; also No. 3600-5 Kit with handle and interchangeable adapters for hollow set and cap screws. All ratcheted to give fast, powerful action with the slightest swing of the arc. Sold by industrial distributors.

Write for the "Yankee" Tool Book

"YANKEE" TOOLS NOW A PART OF STANLEY
Reg. U.S. Pat. Off.
THE TOOL BOX OF THE WORLD

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

Mention Item NED-1875 when writing

Here's all you need to install most machines!

. . . *when you use* **ISOMODE* PADS!**

You can locate almost all machines anywhere in the plant when you provide for shock- and vibration-absorption with Isomode Pads. They do the job effectively—and at surprisingly low cost! Simply place required area of these resilient mountings between machine foot and floor.

Isomode Pads also reduce noise. They keep machines from "walking," even without hold-downs! They save on building maintenance.

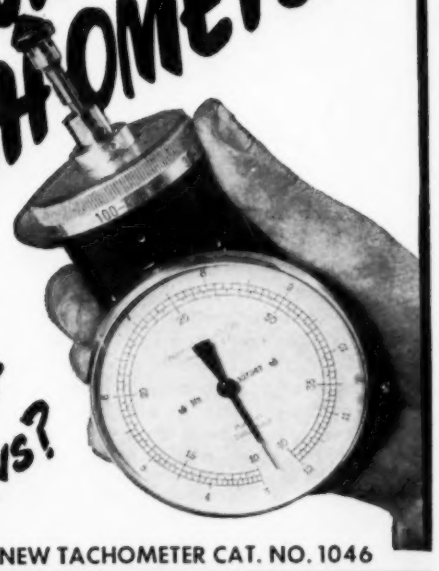
Isomode Pads, molded of Neoprene, resist oil, water—last for years under all types of equipment, including punch presses, looms, compressors! Write for bulletin 405.

*Trade Mark Reg. U.S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1066 State St., New Haven 11, Conn.

Mention Item NED-1876 when writing

STICHT for TACHOMETERS



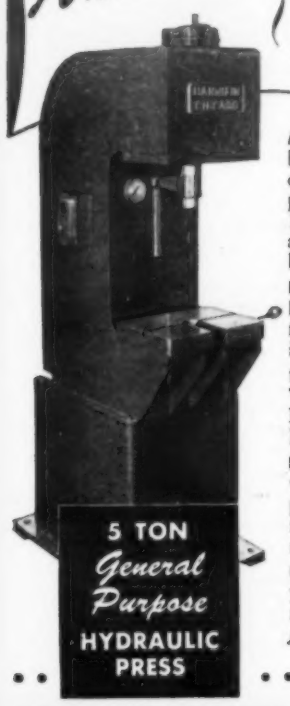
How are your Revs?

WRITE FOR NEW TACHOMETER CAT. NO. 1046

HERMAN H. STICHT CO., INC.
Tachometer Headquarters
27 PARK PLACE NEW YORK 7, N. Y.

Mention Item NED-1877 when writing

Ahead in { 1. DESIGN! 2. PERFORMANCE! 3. VALUE!



A "PACKAGED" UNIT—Complete with built-in hydraulic power unit, controls, and pressure gauge. Capacity, 5 tons. 10" stroke, 7" reach, 16" daylight. Stroke and pressure adjustable. Choice of models for bench or floor mounting.

DOZENS OF USES—Ideal for countless punching, press-assembly, forming, straightening, broaching, and similar operations.

BIG VALUE! LOW COST—Built to "Big Press" standards of quality! Rigid, deflection-resistant frame. Precision-built cylinder and ram.

POPULAR WITH USERS—Works fast with effortless ease. Precision pressure control at operator's finger tip. Easy to set for exact repetitive pressures.

QUICK DELIVERY—Get the presses you need now out of Hannifin's regular volume production. *Write for descriptive literature.*

5 TON *General Purpose* HYDRAULIC PRESS

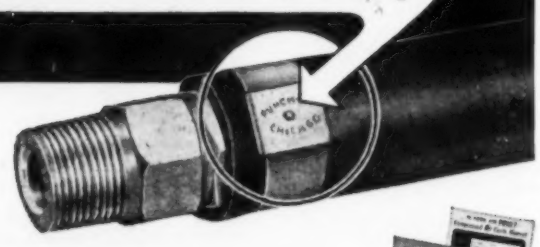
HANNIFIN CORPORATION
1127 S. Kilbourn Ave. • Chicago 24, Ill.

▲ Mention Item NED-1878 when writing ▲

For Production and Maintenance

PUNCH-LOK HOSE CLAMPS and FITTINGS

LOOK—it's locked for Safety



Today's Best Bet—For Leakproof Hose Connections
Write for Catalog and Air Leak Cost Chart

PUNCH-LOK COMPANY
Dept. S, 321 North Justine Street, Chicago 7, Illinois

▲ Mention Item NED-1879 when writing ▲

Lift Loads SAFELY with DROP FORGED BTC

SAFETY HOOKS

Here's the new, safer way to handle heavy loads — BTC Drop Forged Safety Hooks. These sturdy hooks feature automatic mousing and a safety-tie lip hook that affords extra strength . . . prevents slings from slipping and hooks from snagging or straightening. BTC's mousing automatically engages when loads are applied; disengages when loads are released. Special shoulder and lip lock construction maintains load carrying capacity even if pin is sheared. Drop forged steel construction gives BTC Hooks maximum strength. Available in 5-ton or 10-ton sizes in either Eye Bridge or Shank Bridge — both sizes replace eight standard open hook sizes. For safer load handling, order BTC Drop Forged Safety Hooks from your supplier today.

The Brewer-Titchener Corporation
Cortland, New York
Please send me bulletins describing the new BTC Drop Forged Safety Hooks.
Name.....
Company.....
Street..... City.....

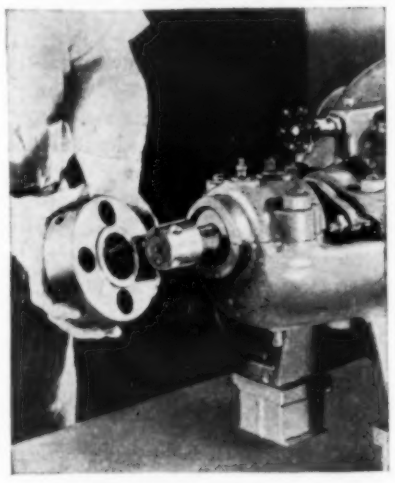
▲ Mention Item NED-1880 when writing ▲

LOCOMOTIVE RERAILER
has load capacity of 200 tons

Suitable for heavy-duty railway service, No. 5½ rerailer is designed especially for handling diesel, steam and electric locomotives which are too heavy to be rerailed by means of ordinary lifting equipment. Construction and use of steel alloy material assure safe handling of heavy railroad equipment. Made by **Nolan Co.**, 128 Pennsylvania St., Bowerston, O.

▲ Mention Item NED-1881 when writing ▲

SHAFT COUPLING
in ⅝ and 2⅛-in. bore sizes



Delivering up to 120 hp at 3550 rpm, this Magic-Grip coupling for motor or pump shaft is available in two sizes. Coupling consists primarily of two cast-iron disks with tapered bores, rubber covered tubes assembled on studs, split tapered bushings and two set screws for each disk. Four drilled recesses in bushing accommodate off and on positions of set screw driving holes of coupling. Bushing holes are offset so that when set screws contact them, force is applied in direction to drive tapers of two pieces either tighter or looser, depending upon whether coupling is being taken off or put on. Made by **Allis-Chalmers Mfg. Co.**, Dept. 1221, 6900 Norman St., Milwaukee 1, Wis.

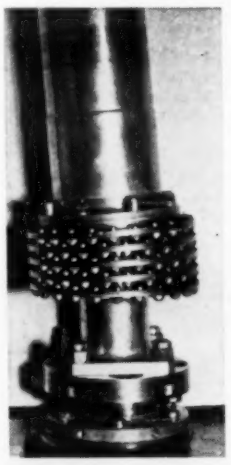
▲ Mention Item NED-1882 when writing ▲

DRUM DISCHARGE UNIT
assures constant flow of materials

Quickly and easily attached to any standard size drum containing powdered or granular materials, Drum Discharger assures controlled flow when materials are being discharged into vats, hoppers, or mixing containers. Speed and quantity of material flow is regulated by adjustable opening. Unit consists of standard size steel drum head with adjustable slide-gate opening, permanently mounted pneumatic vibrator, operating valve and 360-degree swivel connector. Head of drum is removed and drum discharged unit fastened in its place by carriage bolt. When material discharge is required, drum is positioned over container by standard lift equipment or chain fall, slide-gate is opened to desired position, and vibrator is actuated to provide steady flow. Made by **Cleveland Vibrator Co.**, 2744 Clinton Ave., Cleveland 13, O.

▲ Mention Item NED-1883 when writing ▲

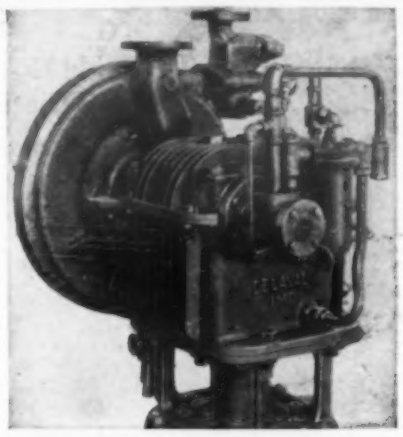
SMALL FLEXIBLE COUPLING
combines flexibility and strength



While little larger than man's fist, flexible drive coupling is capable of handling torque loads up to 300 hp at speeds as high as 9000 rpm. It makes possible use of remotely mounted engine-driven gear box which provides power takeoffs for number of accessories while utilizing only one engine accessory drive pad.

Coupling incorporates eight steel diaphragms, each having hyperbolic wall section, the thickness of which tapers to less than 0.010-in. These disks provide flexibility necessary to permit misalignment up to 3½ degrees, yet are sturdy enough to absorb power surges, peak speeds and maximum loads. Made by **Bendix Aviation Corp.**, Eclipse-Pioneer Div., 1943 Williams Ave., Teterboro, N. J.

▲ Mention Item NED-1884 when writing ▲



De Laval-IMO lubrication and governor oil pump direct connected to high speed turbine shaft.

Pumps oil at 5800 rpm

De Laval-IMO pumps can be direct connected to high speed shafts. No space consuming gear reductions are necessary. Pump capacity is high compared to its size and weight.

Investigate the IMO if you need a dependable, high speed, pulsation-free pump for lubricating oils, fuel oils, hydraulic control fluids or viscous liquids.

Ask for Catalog L-21NT-W

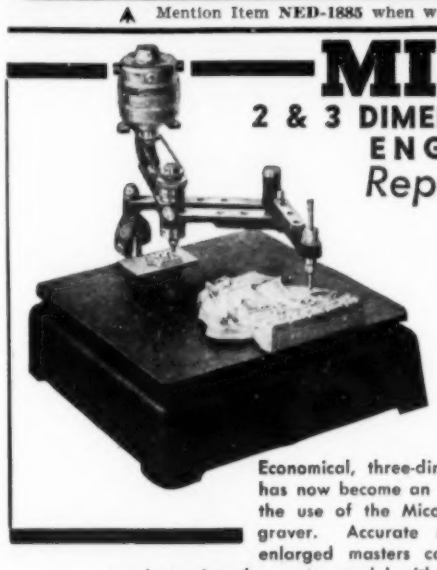
1-154

IMO means I MOVE OIL

IMO PUMP DIVISION of the DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

▲ Mention Item NED-1885 when writing ▲

MICO



2 & 3 DIMENSIONAL ENGRAVER
Reproduces any master model in 4 ratios

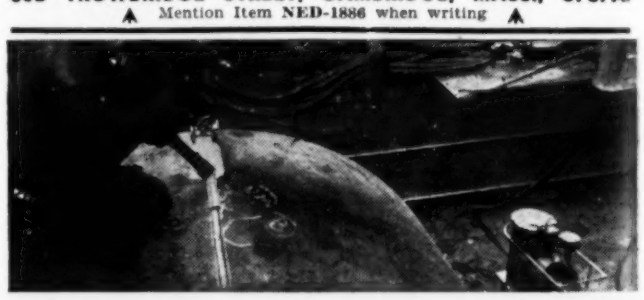
Economical, three-dimensional milling has now become an actuality through the use of the Mico Model 252 Engraver. Accurate reproductions of enlarged masters can be made by merely tracing the master model with the stylus. This machine fills the need for an inexpensive, portable engraver, which is absolutely accurate and dependable. Small dies, tools and molds can be economically fashioned out of any material up to and including steel for hardening. These units can be used for plastics, rubber, glass, die castings or any other forming operation. Any master model can be reproduced in 4 ratios.

Improved pantograph design simplifies conventional engraving of templates, nameplates, panels, trademarks and machined parts.

Illustrated catalog available at your request.

MICO INSTRUMENT CO.
80D TROWBRIDGE STREET, CAMBRIDGE, MASS., U. S. A.

▲ Mention Item NED-1886 when writing ▲



RECLAIMING WELDING FLUX WITH VACUUM

A new method of automatic arc welding leaves a residue of unfused flux which can be reclaimed and used again if separated from the slag. Spencer Vacuum is used for the hand pick-up of the residue on the 20 foot diameter pipe shown, separates the slag and deposits the valuable flux in a container. In another plant, a fifty foot pipe seven feet in diameter is welded by an automatic welder riding inside the pipe. The welder is followed by a helper who scrapes off the flux and picks it up with Spencer Vacuum. The same crew does a weld in four minutes instead of 22 minutes formerly and the salvage of flux paid for the Spencer equipment in one year.

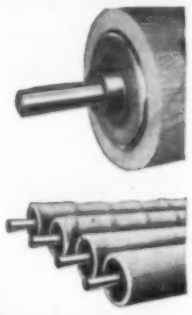
356-R

150 USES FOR VACUUM . . . ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

▲ Mention Item NED-1887 when writing ▲

MANY INDUSTRIAL **ROLL** PROBLEMS are solved by using



SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48

Most complete publication of its kind

Industrial Roll Division

RODNEY HUNT MACHINE CO.

73 Maple Street, Orange, Mass.

*Reg. U.S. Pat. Off.

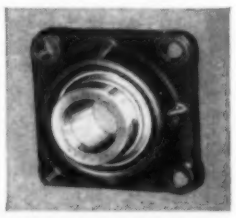
Mention Item **NED-1888** when writing

3 ways to save power

LAK, Light Series, PILLOW BLOCKS Self-aligning design featuring Fafnir Wide Inner Ring Ball Bearing with exclusive self-locking collar and Mechani-Seals. Easiest of all bearings to install and remove. For shaft sizes from ½" to 2 7/16".

LAO Heavy Duty PILLOW BLOCKS Capacity stepped up, size cut down. Full self-alignment in all directions. Fafnir Wide Inner Ring Ball Bearing with exclusive self-locking collar and Mechani-Seals. For shaft sizes from 1 3/16" to 2 15/16".

LCJ FLANGE CARTRIDGES with Fafnir Wide Inner Ring Ball Bearing with exclusive self-locking collar and Mechani-Seals. Full self-alignment. Easily mounted with bolts through flange: no boring operations. Shaft sizes . . . ½" to 2 11/16".



FAFNIR BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

See your nearby Fafnir Distributor about these and other Fafnir Ball Bearing Transmission Units. The Fafnir Bearing Co., New Britain, Conn.

Mention Item **NED-1889** when writing

WALES-STRIPPIT

Specialists IN HOLE PUNCHING

Experience, which can be gained only by specializing, research and manufacture is incorporated in the Wales-Strippit line of Hole Punching and Notching Equipment. The unit illustrated is the Wales Sheet Metal Fabricator with Hydra-new-matic Drive, for punching mild steel and is manufactured by Wales-Strippit Corporation, North Tonawanda, N. Y.

LIMA—SPECIALISTS IN ELECTRIC MOTORS

"THE CHOICE OF ORIGINAL EQUIPMENT MANUFACTURERS"

The Lima Electric Motor Company too are Specialists—Specialists in the manufacture of electric motors for Industrial uses and for application to Original Equipment, such as Punches, Grinders, Profilers, Cut-Off Machines, Lathes, Hydraulic Units, Power Presses, Hoists, etc. Lima specializes too in many special motor applications, where conditions do not permit the use of standard motors, or where the power source must be "built-in" the machine. Lima Engineers invite your inquiries on motorization of standard or special machinery. Bulletins and specifications available upon request.

LIMA ELECTRIC MOTORS — WRITE TODAY FOR BULLETIN MB-1

Representation in principal cities

THE LIMA ELECTRIC MOTOR COMPANY

324 Findlay Road • Lima, Ohio

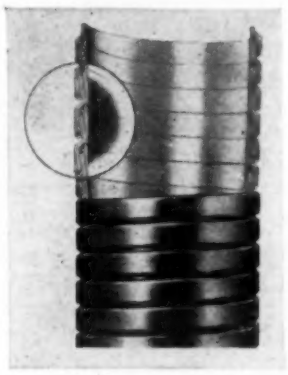
Mention Item **NED-1890** when writing

SWIVEL CASTER withstands high impact shock

Strength of 3-A series single-ball race swivel caster has been increased one-third by improved design. Possibility of material clogging in sides of caster has been reduced by increasing space between wheel and fork. Large diameter ball race adequately carries load and absorbs side thrusts. Casters are available with plain or roller-bearing semi-steel wheels, self-lubricating bushed or roller-bearing solid rubber wheels and with or without thread guards. Wheel sizes range from 2 to 6-in. diameter. Made by **Bond Foundry & Machine Co.**, 306 Penn St., Manheim, Pa.

Mention Item **NED-1891** when writing

FLEXIBLE METAL TUBING withstands granular material wear



Abrasion-resistant metal tubing is constructed for free-flowing flexible transmission of grain, rough forage, slag, insulation and granular materials. Fabricated from galvanized steel strip, it incorporates inner liner as integral part of tube. This laps over spaces between tube convolutions to provide smooth inner surface free from obstructions and also gives protection to surface of convolutions. Made by **Chicago Metal Hose Corp.**, 1343 S. Third Ave., Maywood, Ill.

Mention Item **NED-1892** when writing

COOLING TOWER capacity is 5-15 tons refrigeration

Available in four models, this cooling tower is especially adaptable for self-contained air conditioning units but is also applicable to any installation with water cooled compressor. It permits recirculation of water with minimum of loss. Unit has water turbine drive, and only electrical connection needed is for small pump which is apart from tower. Fill material over which water sprays to dispense heat removed from air conditioned area is water-proof asphalt-impregnated board. Unit requires floor space of 36 x 36 in. and stands 7 ft high. Made by **Carrier Corp.**, 302 S. Geddes St., Syracuse 1, N. Y.

Mention Item **NED-1893** when writing

Unique Fenwal Thermoswitch* Thermostat Amazes Heating Experts By Performing The "Impossible!"

YES, the Fenwal THERMOSWITCH* performs jobs that were thought to be mechanically impossible. Used for automatic grate shaking, for instance, when ordinary thermostats failed.

You, too, can benefit from the extra-rugged, temperature-sensitive, unique THERMOSWITCH*. Opens up new forms of precision-control in manufacturing. Does away with costly control equipment. Simple construction, mechanism fully enclosed. Low upkeep cost. Investigate the THERMOSWITCH* now!

FENWAL INCORPORATED
83 Pleasant St., Ashland, Mass.
Temperature Control Engineers

Fenwal

WRITE FOR BULLETIN ON

THERMOSWITCH*

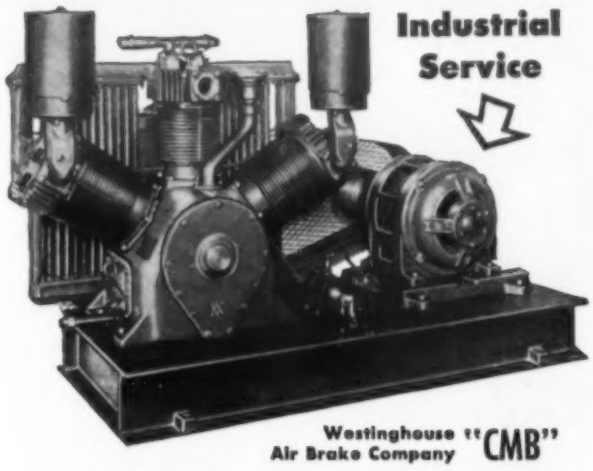
*Reg. U. S. Pat. Off.

The Precision Thermostat For Temperature Control And Detection

SENSITIVE . . . *but only to heat*

Mention Item **NED-1894** when writing

Here's a Husky "He-Man" AIR COMPRESSOR for Industrial Service



Westinghouse Air Brake Company "CMB"

Handles tough assignments—designed for continuous operation at 150-lb. max. Two low-pressure, one high-pressure cylinders, forced-feed lubrication system with "metered" oil flow. Automatic—may be arranged for "start and stop" or "continuous-running—load-unload" operation. Displacements 126 to 203 C.F.M., Motor HP 20 to 40. Catalog 9302-7; ask for it.

Westinghouse Air Brake Co.

Industrial Division: Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

Mention Item **NED-1895** when writing

For your pressure or temperature control design problems...

...BRIDGEPORT Bellows Assemblies

BRIDGEPORT bellows devices are used in many ways, in all industries. They may be just what you need to put *ideas* to *work*—to develop or improve products. Designed and made on order to meet your requirements. Wide range of metals and sizes. Write for details. Ask for Catalog EZ-100.

Bellows Assemblies . . . Bellows . . . Bellows Devices

BRIDGEPORT THERMOSTAT
Division
ROBERTSHAW-FULTON CONTROLS CO., BRIDGEPORT 1, CONN.

Mention Item **NED-1896** when writing

Handle Your Materials with load-floating cost-cutting Colson Trucks

Colson Drum Truck model #6055-65, has ballbearing 10" double steel disc type wheels, demountable cushion rubber tires, rugged light-weight tubular steel frame. Chimb hook locks semi-automatically.

Write Today For Free 56 Page Catalog

More stuff handled with less effort and cost when your plant is equipped with Colson trucks. Hand trucks, barrel and drum trucks, platform trucks, dish trucks, Lift-Jack Systems, dollies, wheels and casters—all designed for ease of movement, floor saving, extra durability. Less "push" means popularity with workers, profits for you. Write us or consult your phone book for the local Colson office.

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

Mention Item **NED-1897** when writing

The "MASTER"® Line
OF MATERIALS HANDLING EQUIPMENT
"Engineered to Save You Money"

Get This Latest L-S Bulletin
Featuring Electric Power Fork Trucks

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THE "MASTER" LINE ®

CUT COSTS WITH The "MASTER"® Line

SPACEMASTER Electric Trucks
SPACEMASTER Gas Trucks (Fork Types)
MASTER JACKSTACKERS
JACKLIFT ELECTRIC Trucks
MASTER JACKTRACTORS
MASTER JACKLIFT Trucks
MASTER QUICKLIFT Trucks
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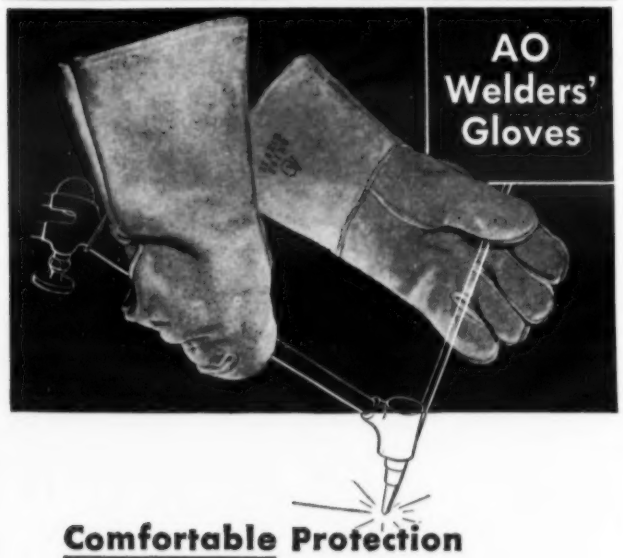
MASTER SPEEDLIFT Trucks
POWERMASTER Stackers
SPEEDMASTER Stackers
FLOORMASTER Trucks
SHIPMASTER All-Steel 2-Wheel Trucks
WELDMASTER Platforms
LOADMASTER Racks

LEWIS®-SHEPARD PRODUCTS INC.
302 Walnut St., Watertown 72, Mass.
Midwest Plant: Crawfordsville, Ind.
Representatives in Principal Cities.

Mention Item NED-1898 when writing



Comfortable Protection
...with Exceptional Resistance to Heat

AO recommends the 5X163 glove illustrated for protection on gas welding and the heaviest amperage electric welding. Hands and fingers have the freedom and comfort they need for the job because the chrome-tanned leather, while made to withstand hard wear, is soft and flexible. Your nearest AO Safety Products Representative can supply you.

QUICK FACTS (AO 5X163 Glove)
- Chrome tanned split horsehide
- One piece back and palm
- All vulnerable seams welted for extra protection
- Extra heavy lining on back of hand

American Optical COMPANY SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

Mention Item NED-1899 when writing

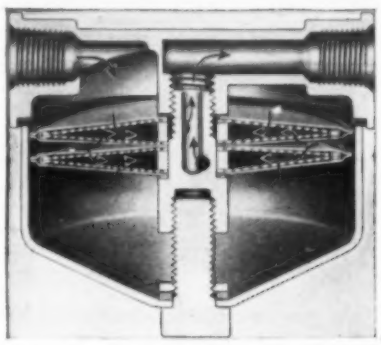
OLSON CONVEYORS
SINGLE UNITS—COMPLETE SYSTEMS

• Put material handling on a continuous basis with Olson conveyors. In single units or in complete systems, Olson conveyors meet every requirement for lifting, lowering or on-the-level handling. Call Olson today for details on standard or custom-engineered equipment . . . for the answer to your problem through continuous material flow.

SAMUEL OLSON MFG. CO., INC.
2423 Bloomingdale Ave., Chicago 47, Illinois

Mention Item NED-1900 when writing

AIR-FLUID FILTER
removes solids down to 1 micron

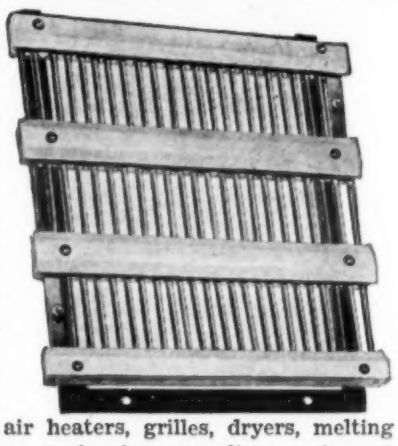


Built in wide range of sizes, this filter is usable for removing solids from liquids, separating water from oils, separating oil from air or water, and purifying gases. Large filtering area within small space is afforded by series of V-shaped horizontal filter disks bolted to housing cover for ease of removal. Each disk consists of two perforated leaves separated at center by perforated flange. Leaves are covered with various filter media, providing wide range of porosity and degree of filtration. Filter housing is high-pressure cast aluminum, and all contact parts are rustproofed. Made by **Sparkler Mfg. Co.**, 324 Lake St., Mundelein, Ill.

Mention Item NED-1901 when writing

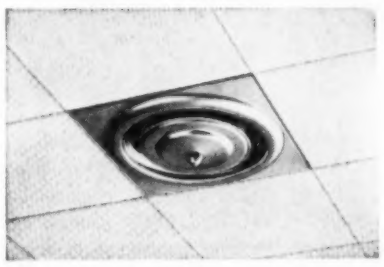
HEATING ELEMENT RACK
for temperatures to 750 or 1350° F

Versatility, ease of installation and economical operation are provided by standard size heating element racks. They can be arranged horizontally or vertically in all types of equipment in ratings from 1.5 to 300 kw. Folded-and-Formed continuous ribbon type elements are located in high temperature refractory porcelains, supported on 12-in. square steel or stainless steel frames. Drilled for mounting, racks can be used on kettles, autoclaves, plating tanks, core and armature bake ovens, air heaters, grilles, dryers, melting pots, salt baths, glass and wire annealing equipment and air conditioning units. Made by **Trent, Inc.**, 251 Leverington Ave., Philadelphia 27, Pa.



Mention Item NED-1902 when writing

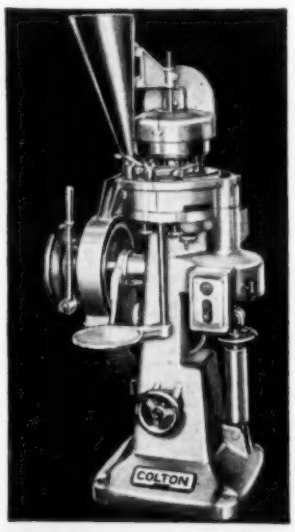
CEILING AIR DIFFUSER
blends with standard ceiling units



Joined integrally with square panel of lightweight metal, this adaptation of Kno-Draft adjustable air diffuser is usable with all standard acoustical and rectangular ceiling units. It is available in numerous sizes and retains all features of standard diffusers such as adjustability for angle of air discharge, air volume control and smudge limitation. Made by **W. B. Connor Engineering Corp.**, 116 E. 32nd St., New York 16, N. Y.

Mention Item NED-1903 when writing

ROTARY TABLET PRESS
produces up to 800 per minute



Variable speed drive incorporated in 16-punch No. 216 rotary tablet press provides wide range of operating speeds to suit different types of tablet material. Machine can be set up quickly to produce tablets up to ⅝-in. diameter and 11/16-in. cell. Maximum pressure is 6000 lb, and uniformly accurate tablet weight is assured by micrometer cell adjustment. In operation, dies are overfilled and leveled off to proper cell depth.

Rotary head is driven by heat treated spiral gears and helical pinion, gears are precision shaved, and high speed drive countershaft permits use of standard 1-hp 1800-rpm motor. Power is transmitted to head through Twin-Disc clutch. Made by **Arthur Colton Co.**, 2600 E. Jefferson Ave., Detroit 7, Mich.

Mention Item NED-1904 when writing

NEW DENISON *High Pressure* HydrOILic PUMPING UNIT

UP TO 5000 PSI
UP TO 35 GPM
CONSTANT OR VARIABLE VOLUME
OPTIONAL OIL COOLERS
CHOICE OF CONTROLS

Designed to Specifications of Joint Industry Conference, Hydraulic Standards

Here's higher pumping efficiency—in 22 *new* models covering a wider range of hydraulic circuit needs. Features include axial piston pumps in three sizes, for either constant or variable volume operation, with capacities of 10, 20 and 35 gpm. Volume control is by handwheel, stem, or pressure compensation.

Base of each unit is a rugged, welded steel reservoir, with bottom slightly raised and sloped for easier draining and cleaning. All operating components (electric motor, pump, relief valve, gauges and controls) are mounted on a removable top.

For heavy-duty use, a standard 2-pass heat exchanger with automatic thermostatic control is optional. A vacuum gauge to indicate suction condition of the reservoir oil filter is also optional. These compact, amazingly *quiet* pumping units meet industrial needs of every type. Write for details.

The DENISON Engineering Co.
1151 Dublin Road, Columbus 16, O.

DENISON HydrOILics

Mention Item NED-1905 when writing

NEW! LOW PRICED PRECISION MADE MULTI-PURPOSE CAM PRESS

• This sturdy press provides accuracy not obtainable with ordinary arbor press. Ideal for small parts production runs.

Write today for special bulletin.

Bed 3⅝" x 4"
Die Space—Stroke up 3⅝"
Length of Stroke ¾"
Capacity 1½ tons

THE PERFECT BENCH TOOL FOR

PUNCHING BENDING
RIVETING DRAWING
FORMING STAKING
SIZING NIBBLING
UPSETTING ASSEMBLING

Price Only $42.00 F.O.B. Marshalltown

MARSHALLTOWN MANUFACTURING CO.
MARSHALLTOWN, IOWA

Mention Item NED-1906 when writing

K-P *Engineered* WIRE MESH

SIEVING, SIZING, SEPARATING, STRAINING and FILTERING in ALL INDUSTRIES

Korb-Pettit Wire Mesh is not only first quality in material and workmanship but is engineered for the job involved. Made in all ductile metals, meshes, and weaves, plain or rolled. Also available in abrasion, corrosion and rust resistant metals. *Write for Catalog No. 36.*

KP "Keeps Promises"

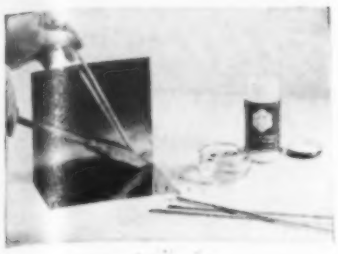
KORB-PETTIT
Wire Fabrics & Iron Works Inc.
Engineers and Manufacturers
1501 North Mascher St.
Philadelphia 22, Pa.

Wire Mesh, Spiral Woven Wire Conveyor Belts, Infra-Red Conveyor Dryers, Leather Finishing and Drying Machines, Industrial Wire Partitions, Machine and Window Guards, Cages, Enclosures, Grilles, etc.

Mention Item NED-1907 when writing

(*Advertisement*)

FARRELLOY (ALL METAL) SOLDER



A new improved solder for all metals will, with the use of a suitable flux, do jobs heretofore considered impractical. The new Solder, FARRELLOY, is in stick form and makes for ready application. It has a natural affinity for all the common metals and acts as a buffer eliminating electrolysis between dissimilar metals. A remarkable indication of its wide range is that it will tin aluminum when used with its companion flux ASMC.

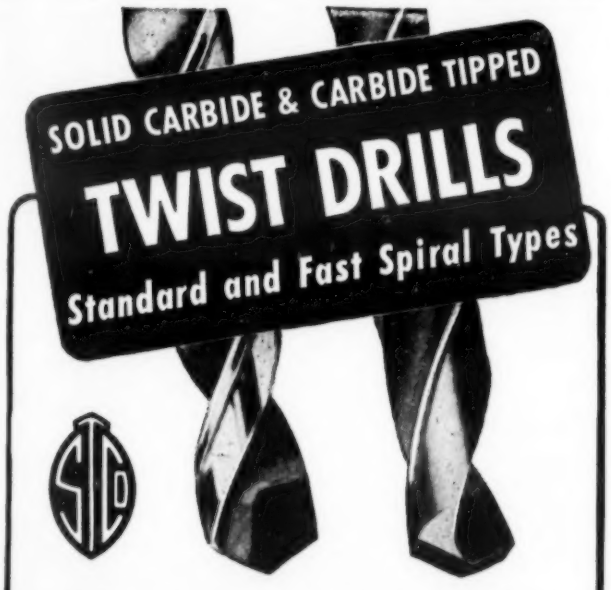
The solder gives a great resistance to corrosive attack and actual tests prove the metal to resist an 800 hour salt spray bath without deteriorating. Further tests show that soldered joints will withstand hydrostatic (cold water) pressure up to 1000 pounds. Furthermore, it can be machined without chunking out and will stand plating —both ordinary and chromium.

The fact this solder can be applied to join such metals as copper and stainless steel or other combinations of dissimilar metals without electrolytic action, plus its resistance to corrosion, are not its only outstanding features. Tensile strength tests show it to be far stronger than 50/50 yet it is highly ductile and soft enough to work with a machinist scraper and makes an ideal combination with ASMC FLUX for those difficult, can't be done, jobs.

FARRELLOY SOLDER (14 bars to the pound) $2.00 per pound; ASMC FLUX (1 bottle) $2.00, fob Philadelphia.

FARRELLOY COMPANY,
1246 North 26th Street, Philadelphia 21, Pa.

▲ Mention Item **NED-1908** when writing ▲



• Super carries large stocks of carbide tipped drills, counterbores, milling cutters, core drills, saws, ejector type tools, etc.—ready for prompt shipment.

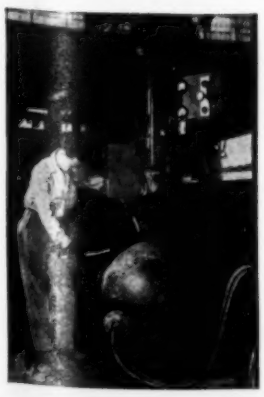
New catalog ready soon

SUPER TOOL COMPANY
21650 HOOVER RD. DETROIT 13, MICH. • 5210 SAN FERNANDO RD. GLENDALE 3, CAL.

▲ Mention Item **NED-1909** when writing ▲

Welding Production Up 50% Labor Costs Down 50%

OUR CLAIM—*PROVEN* BY OUR CUSTOMERS



"Efficiency on repetitive work up to 90% and better."—Black, Sivalls & Bryson, Inc., Kansas City, Mo.

"Reduced labor cost approximately 50% over hand methods."—Dallas Tank Company, Dallas, Texas.

Worthington-Ransome Turning Rolls mean *more arc time* per day. All welds made in "down hand" position with heavier electrodes for neater, better welds.

Standard capacities from 3 to 75 tons, up to 14 ft diam., stationary or self-propelled. (Rolls for heavier or larger work also available.) Also: positioners with capacities from 100 lbs to 20 tons.

Write for Bulletin 228. Worthington Pump and Machinery Corporation, Welding and Assembly Positioning Equipment Division, Dunellen, New Jersey.

WORTHINGTON

WORTHINGTON-RANSOME WELDING POSITIONER

▲ Mention Item **NED-1910** when writing ▲

FLEXIBLE-HEAD WRENCH can be used under obstructions

Double-hexagon broached heads of Flex-Head wrench flex over 180 degrees to permit all angles of turning action. With handle in vertical position, nut can be spun on; then handle is flexed over for final tightening. With handle in horizontal position, little overhead clearance is necessary. Wrench is furnished with different size openings at each end. It is avalable in ⅜ and 7/16, ½ and 9/16, and ⅝ and ¾-in. sizes. Overall lengths range from 5⅝ to 8¾ in. Made by **Snap-on Tools Corp.**, Dept. NED, Kenosha, Wis.

▲ Mention Item **NED-1911** when writing ▲

MECHANIC'S HAMMER has two heads on single handle

Incorporating one head of drop forged steel and one of rubber on single handle, Bar M All Purpose mechanic's hammer is recommended for light or heavy work where surfaces of material must not be dented or marred. Duro rubber head is pressure-locked on steel base, has calculated low blow-recoil factor and can do heavy work without peining material. Hammer is available at present in 40-oz size only. Made by **Mondie Forge Co.**, 10273 Berea Rd., Cleveland 2, O.

▲ Mention Item **NED-1912** when writing ▲

COMPARTMENT WATER COOLER has three refrigerated sections

Obtainable in bottle or pressure bubbler model, 3-Temp water cooler provides 50° F drinking water for 25 to 30 persons; 35 to 38° F refrigerated storage space for food, beverages or pharmaceuticals; and freezing unit which produces 3½ lb of ice cubes at one freezing. Up to forty ½-pint bottles of milk or 29 beverage bottles can be kept in stainless steel storage compartment at one time. Regardless of load or heavy duty placed on any one of three compartments, desired temperature is maintained in each. Cooler has fully hinged door and lock type snap catch. Refrigeration system is hermetically sealed. Made by **Westinghouse Electric Corp.**, P. O. Box 2099, Pittsburgh 30, Pa.

▲ Mention Item **NED-1913** when writing ▲

TASGON is as useful as an extra man in your shop.

If you have a rust problem, *write* for a *free can of Tasgon*. Try Tasgon once; you can't be without it.

• FROZEN nuts, bolts, couplings. Tasgon quickly penetrates the tightest joints . . . almost instantly frees fittings frozen with rust. Avoid breaking parts. Save hours of labor.

• SALVAGE rusty tools and equipment with Tasgon. Cuts through old hardened paint, grease, grime. Quickly cleans all metal surfaces.

WRITE TODAY for your free can of Tasgon. Tasgon is the quickest, most penetrating rust solvent on the market.

SAMUEL CABOT, INC.
326 Oliver Bldg., Boston 9, Mass.

TASGON

▲ Mention Item **NED-1914** when writing ▲

it takes just 2 seconds to reach - and talk to anyone in your business with

ELECTRONIC **AMPLICALL** INTERCOMMUNICATION

Speeds Work

Cuts Costs

SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your local AMPLICALL specialist, or write us direct

Just touch a button for instant speaking contact within and between all departments of your business. AMPLICALL takes the load off busy switchboards—puts an end to wasteful walking, waiting and slowdowns—speeds up and increases work output. Pays for itself quickly by converting costly wasted time into working time. Get the full details on AMPLICALL today!

Electroneering is our business

SOUND EQUIPMENT **Rauland** INTER-COMMUNICATION

RAULAND-BORG CORPORATION • 3523-D ADDISON ST., CHICAGO 18, ILL.

▲ Mention Item **NED-1915** when writing ▲

B.F.Goodrich *announces*

TWAY TIRE AND WHEEL ANALYSIS PLAN for materials handling

• HOW IT WORKS

An experienced tire and wheel man will survey your operation. He will study loads, hauls, handling equipment, floors and hauling surfaces, and discuss any special tire and wheel problems you may have. On completion of this survey the BFG man, without charge or obligation on your part, will recommend the best type and size tires and wheels for your particular service, including suggestions on tire care and maintenance.

• HOW YOU SAVE

Tire and wheel costs can be cut up to 50% through the application of the right type, size and tread compound, to the job. (Studies show improvements can be made in two out of three operations.) Proper tire maintenance alone can cut tire and wheel costs 10% to 20%.

• WHY YOU GET IMPARTIAL RECOMMENDATIONS

No other company offers as wide a range of types, sizes, and tread compounds as B. F. Goodrich. There is no selfish reason for a B. F. Goodrich man to push any one type of tire against another. He has them *all*. His advice is impartial.

• 14 TYPES OF TIRES—6 DIFFERENT TREAD COMPOUNDS

B. F. Goodrich offers a complete line of tires for materials handling equipment—pneumatics, puncture-sealing inner tubes, solids including pressed-on and vulcanized-on types, zero pressure types, (semi-pneumatics). There's a wide choice of tread designs in each type and 6 different tread compounds for 6 different purposes in the solid tires. Only B. F. Goodrich has this complete line of types, compounds and sizes.

Today—mail the coupon for information on this new and practical Tire and Wheel Analysis plan. A similar program is available for manufacturers of materials handling equipment.

The B. F. Goodrich Co.
Department TW-32
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

Name _____
Title _____
Company _____
City _____ State _____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ Mention Item **NED-1916** when writing ▲

Illustrated above is cross section of a motor . . . and when you look inside, you'll see a Klixon Automatic Motor Protector . . . always on guard, ready to prevent the motor from burning out.

Built-in as an inherent part by the motor manufacturer, the Klixon Protector *protects* the motor by cutting "off" the power should the motor become dangerously overheated. When it cools to safety, the protector snaps the power "on" again automatically.

Regardless of the motors or motor-driven products you manufacture, it will be to your advantage to use and specify motors with built-in Klixon Protectors. They are available in automatic reset and manual reset types in a wide range of ratings.

Remember, too, Klixon Protectors in transformers, solenoids, variable voltage transformers and other electrical equipment keep them from burning out.

SPENCER THERMOSTAT, *Division of Metals & Controls Corp.* KLIXON
1903 FOREST STREET, ATTLEBORO, MASS.

▲ Mention Item NED-1917 when writing ▲

Only $65.

NOW BUYS A REAL PRODUCTION SAW

WEIGHT 12 LBS.

PORTER-CABLE Guild A-6 SAW

YOU'LL RANK IT WITH THE MOST USEFUL TOOLS ON THE JOB!

Can't Buy a Better Many-Purpose Saw because only Guild offers so many *quality* features at the price . . . *Cuts Faster;* there's *speed* and *power* in that 2000 rpm motor. *Handles Easier* because it's extra light, superbly balanced. *Performs More Smoothly,* thanks to helical gear drive. *Perfectly Accurate* with cutting line always visible. *Extra Safe;* guarded, balanced for safe starting, cutting and finishing. *More Durable,* thanks to Balanced operation plus sturdy, polished aluminum housing. *Adjusts Easily* from ⅛" to full 2" cut. *Blows Sawdust* off cutting line — away from motor. *Does Everything;* saws, rips, ploughs, dadoes, cross cuts, grooves — works on lumber, plywood, plastic, composition, asbestos board, tile, even light metal. Numerous attachments available to increase its application. You'll be satisfied — plus!

The Guild A-6 has proved thousands of times that it's mighty useful to have around the job. Convince yourself — watch it perform at your Porter-Cable dealer's today.

IF YOU WANT ECONOMY IN A QUALITY 8" SAW . . . It's the GUILD A-8 for you! Cuts full 2⅞". Slightly larger and heavier than the GUILD A-6 — has all its outstanding features. Built for a big day's work, yet costs... ONLY $87.00

PORTER-CABLE MACHINE CO.
2703 N. Salina St., Syracuse, N. Y.
Manufacturers of SPEEDMATIC and GUILD Electric Tools

In Canada (except B. C.): Write Strongridge Ltd., St. Catharines, Ont.

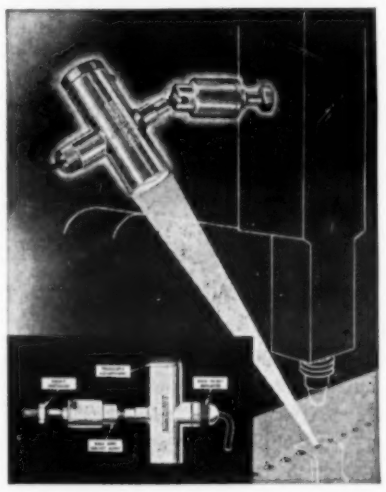
▲ Mention Item NED-1918 when writing ▲

SMALL ELECTROLYTIC CAPACITOR handles full-sized functions

Efficient utilization of space makes Bantam type SRE electrolytic capacitors especially suitable for hearing aids, cathode bypass applications, screen filter circuits, personal radios and similar uses. They are hermetically sealed in tubular aluminum cases and have wax-impregnated cardboard insulating jackets. Stud terminals provide maximum creepage distances between terminals and can. Tinned-copper 18-gage leads assure positive mechanical and electrical contacts even with smallest units. Units comply with RMA tolerance requirements, direct current leakage limits, surge-voltage ratings, operating temperature ranges, etc. Made by **Aerovox Corp.**, 740 Belleville Ave., New Bedford, Mass.

▲ Mention Item NED-1919 when writing ▲

LOCATING SPOTLIGHT positions work for blind operations



Suitable for positioning large assemblies on all types of equipment such as resistance welders, automatic riveters, dimpling and countersinking machines and punch and drill presses, this locating spotlight is easily positioned on ball and socket joint. Its spot of light can be adjusted in diameter to as small as ⅛-in. Unit is sturdily made, is chrome plated and has special lens to permit sharp definition of spot in wide range of diameters. It can be equipped with transformer of either 110 or 220-v type. Made by **Sciaky Bros., Inc.**, 4517 W. 67th St., Chicago 38, Ill.

▲ Mention Item NED-1920 when writing ▲

CARBIDE TOOL GRINDER designed for use with diamond wheels

Usable as surface, chip breaker and universal tool and cutter grinder, this bench-type carbide tool grinder is provided with both swiveling table and swiveling motor. Grinding wheels are mounted directly on 1¼-in. ball bearing spindle. Reversible 1-hp motor and wheel can be set accurately in any position 20 degrees either side of vertical center. Lever and handwheels in front of machine provide vertical, longitudinal and transverse table movement. Micro scales are incorporated for close settings, and table has two T-slots for adjustable stops. Coolant is supplied by centrifugal pump that delivers 12 gph. Made by **Wickman Mfg. Co.**, 15535 Woodrow Wilson Ave., Detroit 3, Mich.

▲ Mention Item NED-1921 when writing ▲

DEEPWELL TURBINE PUMP has operating speed of 1750 rpm

Designed primarily for wells of 5 or 6-in. diameter, this small deepwell pump can be secured with or without pressure tank. It can be powered by direct connection to vertical hollow shaft electric motor, by right-angle gear drive or quarter-turn flat belt drive on gasoline or diesel engine. Four models, 12, 15, 16 and 23-stage, are offered to meet various requirements. Combination of effective capacity and low speed extends useful life of motor and pump. Made by **Byron Jackson Co.**, Pump Div., Dept. 11, P. O. Box 2017 Terminal Annex, Los Angeles 54, Calif.

▲ Mention Item NED-1922 when writing ▲

...IS

*SCRUD: *The SCale, RUst, Dirt, water, oil and other foreign matter in pipe lines.*

Model CPH for Air & Other Gases

Staynew Pipe Line Filters positively remove damaging foreign matter in pipe lines for air, other gases or liquids. Exclusive features mean better performance at lower cost. *Write for complete data mentioning special interests.*

DOLLINGER STAYNEW FILTERS

DOLLINGER CORPORATION 49 CENTRE PK. ROCHESTER 3, N.Y.

▲ Mention Item NED-1923 when writing ▲

TRACING CLOTH FOR HARD PENCILS

• Imperial Pencil Tracing Cloth has the same superbly uniform cloth foundation and transparency as the world famous Imperial Tracing Cloth. But it is distinguished by its special dull drawing surface, on which hard pencils can be used, giving clean, sharp, opaque, non-smudging lines.

Erasures are made easily, without damage. It gives sharp, contrasting prints of the finest lines. It resists the effects of time and wear, and does not become brittle or opaque.

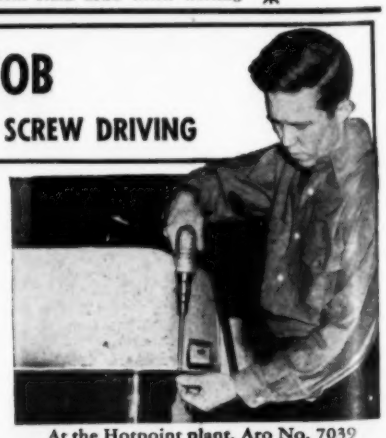
Imperial Pencil Tracing Cloth is right for ink drawings as well.

IMPERIAL PENCIL TRACING CLOTH

SOLD BY LEADING STATIONERY AND DRAWING MATERIAL DEALERS EVERYWHERE

▲ Mention Item NED-1924 when writing ▲

FOR ANY JOB IN SCREW DRIVING



There's an ARO TOOL to help you

At the Hotpoint plant, Aro No. 7039 drives sheet metal screws in assembling automatic washing machines.

Increase Production, Reduce Costs!

You name the job—in tough assembly screw driving or nut setting—ARO has the tool to do it *faster* and *reduce your costs!* Broad range of models and capacities from No. 0-80 to No. 14 screws . . . 450 r.p.m., 750 r.p.m., 1000 r.p.m., 2400 r.p.m. . . . specially designed for high production . . . improved workmanship . . . lower unit costs . . . less work spoilage . . . fewer broken bits . . . longer tool life. See your nearest industrial distributor . . . or write for bulletin. The Aro Equipment Corporation, Bryan, Ohio.

ARO AIR TOOLS

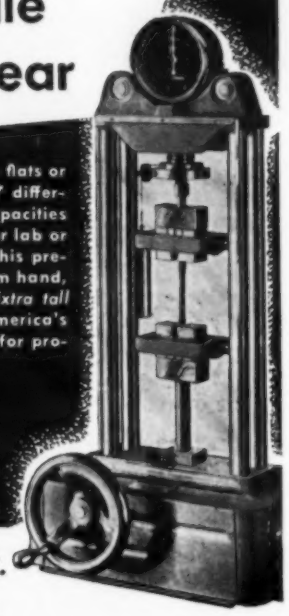
Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS

Aro of Canada, Ltd., Toronto

▲ Mention Item NED-1925 when writing ▲

It's Universal...

Compression
Transverse
Tensile
Shear



Dillon portable tester handles rounds, flats or special shapes with split accuracy. 7 different gauges—all interchangeable! Capacities from 250 up to 10,000 lbs. Perfect for lab or shop. Hand operated or Motorized, this precision unit is equipped with maximum hand, self-aligning grips, ball bearings. *Extra tall* models for rubber or plastics. America's finest low-priced tester. Write today for profusely illustrated folder.

DILLON
Universal
TESTER

W. C. DILLON & CO., INC.
5410-NE WEST HARRISON ST.
CHICAGO 44, ILLINOIS, U. S. A.

▲ Mention Item NED-1926 when writing ▲

I-R Chemical Pumps are Built for Easy Maintenance —and LESS OF IT

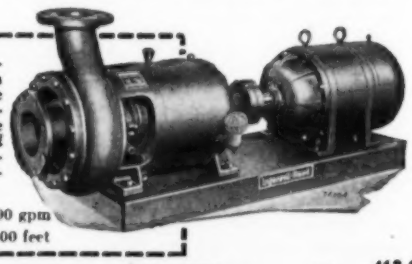
Ingersoll-Rand chemical pumps are ruggedly constructed to last longer on the job — and their overall simplicity, with all parts easily accessible, means less "time out" for maintenance.

The corrosive-resistant qualities of *Ircamet* and other materials used in the construction of these pumps, have been thoroughly proven by both laboratory and field tests. The short, rigid, stainless-steel shaft, supported by large, oil-lubricated ball bearings, prevents impeller whip and eliminates many stuffing box troubles. A removable suction nozzle is provided to give access to the impeller.

There are many other easy maintenance features of I-R chemical pumps described in Catalog 7095. Ask an Ingersoll-Rand engineer for your copy. Or, if you have a special pumping problem, he'll be glad to help you.

And *only* I-R chemical pumps offer you the advantages of the *Leakollector* stuffing-box gland and the *Cameron Shaft-Seal* . . . the modern solution to pump leakage.

Capacities to 4000 gpm
Heads to 200 feet



418-10

Ingersoll-Rand
Cameron Pump Division
11 Broadway New York 4, New York

▲ Mention Item NED-1927 when writing ▲

FOR VENTILATION, FUME AND DUST CONTROL

Light, Strong, Flexible

FLEXAUST
SPIRAL-REINFORCED HOSE

Flexaust is suitable for a wide variety of suction and pressure uses in ventilation, dust collection and fume control. **SIZES 1¼ inches to 24 inches.** Write for full information on this all-purpose hose. Various Flexaust types, accessories, and other hose types also available:

BLOFLEX
Non-reinforced collapsible

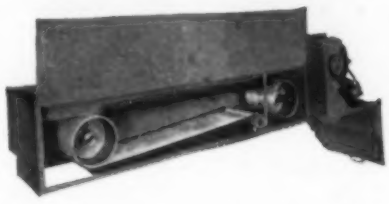
PORTOVENT
Ring-reinforced retractable

AMERICAN VENTILATING HOSE COMPANY
Dept. N-3, 15 Park Row, New York 7, N. Y.
Branch Offices:
New Orleans, La., San Francisco, Calif., Washington, D. C.
Plants: Amesbury, Mass.

▲ Mention Item NED-1928 when writing ▲

BELT FEEDER
has speed of from 0 to 200 fpm

This compact totally-enclosed belt feeder can be obtained in lengths from 18 to 60 in. and in stream widths of 2, 4 and 6 in. having rated capacity up to 1500 cu ft per hour. It can be driven by single speed motor at either end, from line shaft, or by infinitely variable speed drive when specified. Manual control or remote control up to 30 starts per minute is available also. Unit can deliver continuous stream of material from intermittently discharging automatic bulk scale; and when used with variable speed drive, it can be adjusted to conform with timed discharges of scale to maintain accurately weighed stream. Made by **Richardson Scale Co.**, Van Houton Ave., Clifton, N. J.



▲ Mention Item NED-1929 when writing ▲

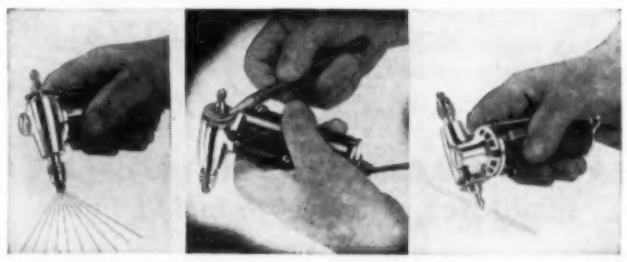
WELDING SLIDE RULE
lists welding rods and electrodes

Pocket-sized welding electrode comparator slide rule chart No. GEN-37 lists company's welding rods and indicates type of service for which each is designed. All principal manufacturers' electrodes which are closest equivalents for application noted are listed also. Listings are keyed to AWS classification numbers, and comparison data can be read directly off slide rule. For convenience of operator, AWS class designations are explained on back of comparator to simplify selection of electrodes. Made by **General Electric Co.**, Schenectady 5, N. Y.

▲ Mention Item NED-1930 when writing ▲

ELECTRIC ERASING TOOL
incorporates burnisher also

Through medium of worm gear drive, erasing speed of 3000 rpm is afforded by Dremel eraser which will not burn or tear paper. Other features are vibrationless



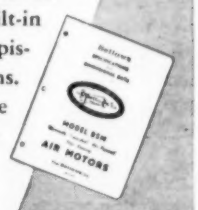
motor to permit accuracy in erasing fine detail, weight of only 12 oz, sliding snap type switch for intermittent or continuous operation, quick-action chuck and convenient hanger hook. At opposite end of eraser shaft is burnisher to smooth erased areas for redrawing or reinking. Rotating abrasive disk at base of burnisher sands pencil or compass leads to sharp point. Tool is furnished with three grades of ¼ x ¾-in. eraser tips, six abrasive disks and 6-ft rubber cord and plug. Made by **Dremel Mfg. Co.**, Fourteenth & Clark Sts., Racine, Wis.

▲ Mention Item NED-1931 when writing ▲

ELECTRICALLY-CONTROLLED
AIR CYLINDER

Complete **POWER UNIT WITH BUILT-IN CONTROLS**

THE Bellows electrically-controlled BSM Air Motor is a complete reciprocating straight line power unit. Performs any pull, push or lift operation at a touch of a button. Built-in speed controls give positive control of piston rod speed in either or both directions. No extra valves to buy . . . no expensive piping to install. Only one air connection required which may be flexible hose. Available in 1¼", 2½", 3⅝" and 4½" bores — any stroke length.
Dept. NED 350



Write for Specification Bulletin BSM

The Bellows Co.
Akron, Ohio

▲ Mention Item NED-1932 when writing ▲

Kester Solder

Kester makes over 100,000 different types and sizes of flux-core solders. Kester solders are made only from newly mined grade A tin and virgin lead.

Preferred

Kester Solders are not only preferred by industry, but individual workers also insist upon Kester to enable them to do their best work.

Saves Time

Contact Kester's Technical Department on your soldering problems. There is no obligation.

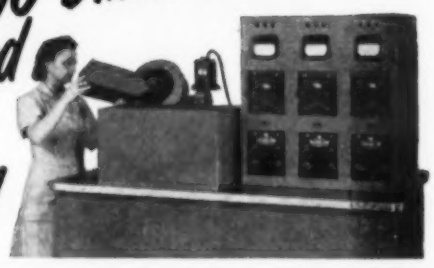
KESTER SOLDER COMPANY
4201 Wrightwood Avenue
Chicago 39, Ill.
Newark, N. J. Brantford, Can.

KESTER SOLDER

SEND FOR FREE MANUAL: "SOLDER AND SOLDERING TECHNIQUE"

▲ Mention Item NED-1933 when writing ▲

3,000,000 Dimensions inspected per month!



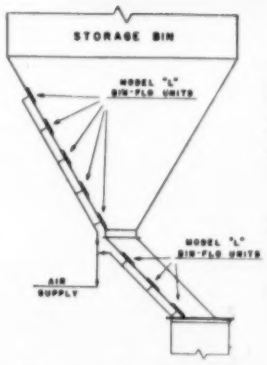
"Unprecedented savings in cost, quality, and assembly", the owner said, have been made with this FEDERAL ELECTRONIC SORTING GAGE. The Assembly Department now refuses to accept chain rivets until inspected by this gage. Result: two more Gages on order *right now.*

Thirty years of gaging know-how plus efficient electronic components mean we can build Federal Automatic Gages to exactly fit your needs. These gages are controlling dimensional quality of all types of products: rivets, glass tubing, fountain pens, insulator plates, discs, piston pins, and many others. Write for more details — and tell us about your own problems. Federal Products Corp., 1173 Eddy St., Prov. 1, R. I.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively.

▲ Mention Item NED-1934 when writing ▲

BIN-FLO



Provides STEADY FLOW of Bulk Materials

New aerating device provides uniform steady flow of most dry finely-ground materials from bins, hoppers, chutes, and silos.

BIN-FLO units are located at points of restricted flow. Low-pressure air supply may be controlled by BIN-DICATORS.

THE BIN-DICATOR COMPANY
14615 E. Jefferson Avenue Detroit 15, Michigan

Please send new 20-page catalog giving complete information and specifications on BIN-DICATORS. Also please send information on BIN-FLO Aerating Units.

Name_____
Address_____
City_____ State_____

D-3

▲ Mention Item NED-1935 when writing ▲

the NEW SIBLEY MODEL E-25
DRILLING MACHINE
It's not too light! — not too heavy!

Fills long awaited need for medium weight Drill Press

Sensitive machine with 25" swing for production, yet suitable for maintenance. Variable speed drive —select exact speed for any size drill from 1/8" to 1"—tachometer shows spindle speeds. 1½ H.P. motor. Five spindle speed options, from a low of 206—825 R.P.M., to a high of 540—2160 R.P.M., with 3 phase 60 cycle motor. Oil groove table accuracy maintained to .0007" in 6 inches. Splined spindle and driving sleeve are ball bearing equipped. Wt. 765 lbs.

Write for Catalog No. 69
SIBLEY MACHINE & FOUNDRY CORP.
82 East Tutt St., South Bend 23, Ind.

▲ Mention Item NED-1937 when writing ▲

WHEN YOU THINK OF DOWELS
THINK OF ALLENS

◎ **Allens for Strength**
Made from Allenoy steel. Heat treated for hard exterior and strength of core. (Shear strength up to 150,000 p.s.i.)

◎ **Allens for Mirror-like Surface**
Tru-ground to roller bearing smoothness. (Surface hardness 62-64 Rockwell C scale.)

◎ **Allens for Uniform, Gauge-like Accuracy**
Made to tolerances of ± .0001".

◎ **Allens for Economy**
Far less expensive than dowel pins of old-fashioned materials and manufacture.

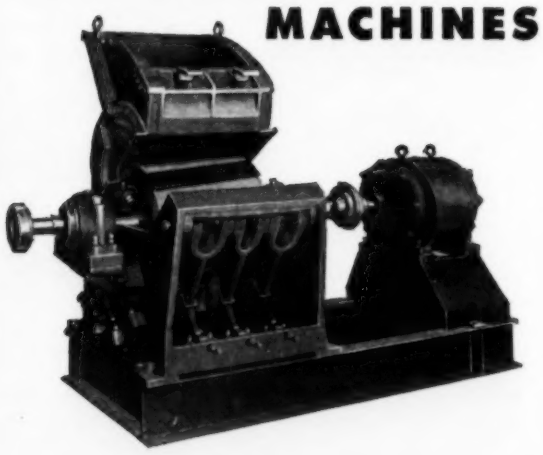
Sold Only Through Leading Industrial Distributors

Write the factory direct for technical information and informative literature.

ALLEN MANUFACTURING CO. — ALLEN HEAD
Hartford 2, Connecticut, U.S.A.
NEW YORK, CLEVELAND, DETROIT, CHICAGO, LOS ANGELES

▲ Mention Item NED-1938 when writing ▲

M & M REDUCTION MACHINES

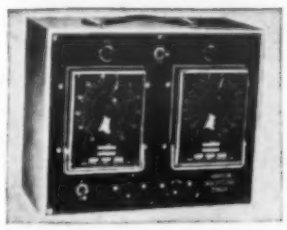


These efficient machines will rapidly reduce otherwise unusable waste products to uniform size for easy handling. The product may be used as a fuel for municipal incinerators and power plants. M & M Reduction Machines are the most practical method of garbage disposal. Many applications are being made in industry for turning factory waste into valuable by-products. Cut disposal costs with M & M Reduction Machines. Send us your problems.

MITTS & MERRILL
1000 SOUTH WATER STREET • SAGINAW, MICHIGAN

▲ Mention Item NED-1939 when writing ▲

RECYCLING TIMER
incorporates two timing elements



Two individual timing elements, each able to control a specific operation, are accommodated in single housing of this Tandem recycling timer. When timer dials are set to respective time intervals required, each cycle of operation will follow other continuously in regular sequence. Unit will maintain this sequence without adjustments until new time intervals are required. Control cabinet measures 11½ x 9 x 7 in. and contains two sockets into which timing elements are plugged so that they control single-pole double-throw load relay. Contact circuit of this relay is unpowered, permitting application of particular voltage and current necessary for test or production. Load relay contacts are rated 20 amp at 115 v ac, noninductive. Applications include control of machinery, apparatus life testing, conveyor system control and laboratory use. Made by **Industrial Timer Corp.**, Dept. N, 115 Edison Place, Newark 5, N. J.

▲ Mention Item NED-1940 when writing ▲

TERMINAL & CONDUIT BOXES
for new and old electric motors

Available in three sizes, terminal and conduit boxes are constructed of pressed steel to minimize weight and improve appearance of electric motors. Size 1 will take ½ to 1-in. conduits; size 2 handles 1 and 1¼-in. conduits; and size 3, conduits up to 2½ in. Motor manufacturers may specify holes in back and bottom to suit their designs, and standard line is offered for motor repair shops. Gaskets for use between back of box and motor and between box and cover are obtainable also. Made by **Kolton Electric Mfg. Co.**, 123 New Jersey Railroad Ave., Newark 5, N. J.

▲ Mention Item NED-1941 when writing ▲

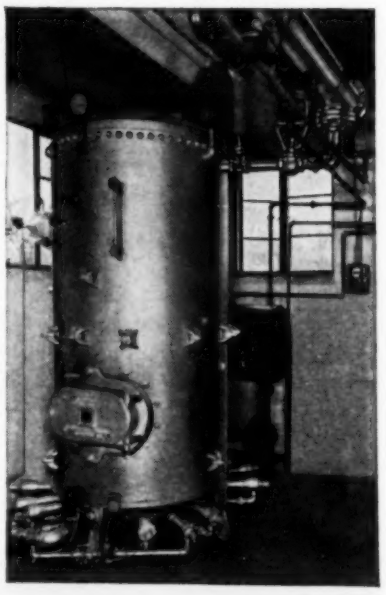
PLANER TIME CALCULATOR
facilitates estimating planing time

Actual time required for particular job using planer equipped with variable voltage drive can be determined quickly by means of slide rule type calculator. Arrow on top movable scale is set under maximum feasible return speed, arrow on center movable scale is placed under transfer line leading to recommended cut speed, width of cut is set on lower movable scale under transfer line leading to length of stroke, and planing time is read under recommended feed. Reverse side of calculator has speed and feed chart for high speed and carbide tools. Device, priced at $2, is constructed of vinylite and supplied in protective case. Made by **G. A. Gray Co.**, 3610 Woodburn Ave., Cincinnati 7, O.

▲ Mention Item NED-1942 when writing ▲

WATER HEATING SYSTEM
gas-fired unit acts instantaneously

Consisting of automatic gas-fired boiler, instantaneous water heater, steam control valve, close-control thermostat and condensate unit, this McKee Storageless water heating system saves fuel because water is not heated until needed. It is recommended for industrial, institutional and commercial use where space is at a premium. Features include absence of scale in boiler since same boiler water is used over and over again, copper tubes for water passage heat exchange and absence of unused hot water at end of work period. Made by **Eclipse Fuel Engineering Co.**, 672 S. Main St., Rockford, Ill.

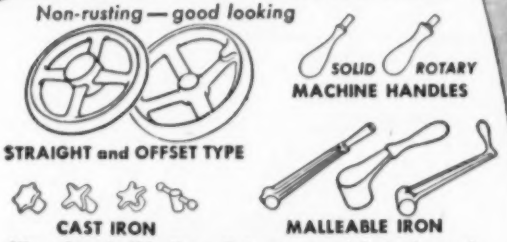


▲ Mention Item NED-1943 when writing ▲

Dependable
MEASURING & CHECKING EQUIPMENT

and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

Send for Complete Catalog

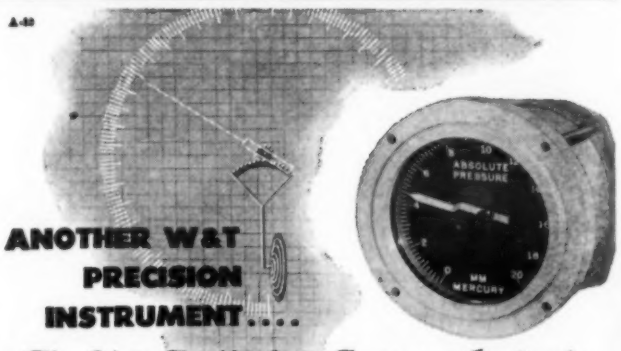


We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6771 E. McNichols Road • Detroit 12, Mich.

▲ Mention Item NED-1944 when writing ▲

A-40



ANOTHER W&T PRECISION INSTRUMENT....

The W & T Absolute Pressure Indicator

The W&T Absolute Pressure Indicator is specially designed for measuring a wide range of pressure down to absolute zero, swiftly and precisely. No elaborate auxiliary indicators are required to use this instrument . . . just connect the vacuum line directly to the gauge, read vacuum directly from the dial in terms of absolute pressure. The instrument offers a sensitivity of 1 part in 500 for all ranges which are listed below.

Here are some other major advantages of this instrument:
Readings are independent of the gas being measured.
Scales are custom calibrated and require no calibration curve.
No mercury is used, eliminating the hazard of mercury vapor in the vacuum system.

Standard ranges (2¾" or 6" dials):
0 — 20 mm. mercury absolute pressure
0 — 50 mm. " " "
0 — 100 mm. " " "
0 — 200 mm. " " "
0 — 410 mm. " " "
390 — 800 mm. " " "

This W&T Precision Pressure Indicator, already proven through use in vacuum distillation, lamp and tube manufacture, and food processing, is only one of a series of W&T precision pressure instruments. If you desire more information or have a problem in pressure measurement, write today.

WALLACE & TIERNAN PRODUCTS, INC.
ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey • Represented in Principal Cities

▲ Mention Item NED-1945 when writing ▲

LIKE most production-wise foremen, Pop is a bug on tools. He knows that Nicholson X.F. (Extra Fine) Swiss Pattern Files, for example, are the finest finishing files you can buy. And heaven help the man who uses 'em on the wrong jobs!

Nicholson Swiss Pattern Files are widely used for removing burs left from previous machining operations, rounding out slots, smoothing small parts, and final finishing on all sorts of delicate and intricate pieces. They come in seven degrees of coarseness and scores of shapes and sizes. Available through your industrial distributor.

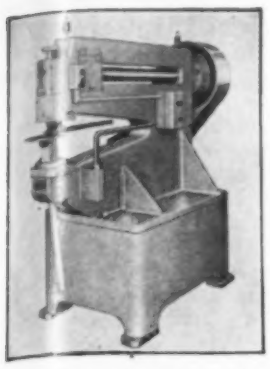
Send for the Nicholson booklets, "*Ten Special File Types*" and "*File Filosophy.*" They're FREE.

NICHOLSON FILE CO., 34 ACORN ST., PROVIDENCE 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON U.S.A. **NICHOLSON** TRADE X.F. MARK
. . . a file for every purpose

▲ Mention Item NED-1946 when writing ▲

NIBBLING..New machine cuts odd shapes from sheet stock up to ½ inch



The Campbell Nibbling Machine operates by means of a rapidly moving circular punch over a circular die. The combination of punch and die takes a small "bite" with each stroke of the punch. The cut is made by holding the work against the pilot of the punch and following templet or scribed line. Since the punch and die are round, work can be fed equally well in any direction. The operator may use both hands in guiding the work, which makes it easy to cut intricate shapes. Multiple speed and adjustable stroke provided.

The Campbell line of Nibbling Machines includes 7 models. On the Model 530, ½" steel may be cut from sheets up to 60" wide.

Source: CAMPBELL MACHINE DIVISION
American Chain & Cable
941 Connecticut Avenue
Bridgeport, Conn.

▲ Mention Item NED-1947 when writing ▲

SELF-LOCKING THREAD INSERTS for plastics, wood and soft metals

This self-threading Tap-Lok insert increases shear area of materials which are machinable but of insufficient shearing strength to allow machine screws, bolts, studs or self-tapping screws to be used directly under stress loads. Insert will withstand vibration without loosening and permits application of standard thread hold-down fasteners without danger of stripping threads. Frequent disassembly is possible without damage to tap hole threads.

Insert is turned into cored or drilled hole equal in size to tap drill hole for external thread of insert. While being turned in, it taps its own thread with edges of its four slotted segments. These segments are forced inward and effect double locking action when receiving fastener. When fastener passes into slotted area, friction lock is produced, and segments are simultaneously expanded to secure insert against rotating movement. Made by **Groov-Pin Corp.**, 2016 Kerrigan Ave., Union City, N. J.

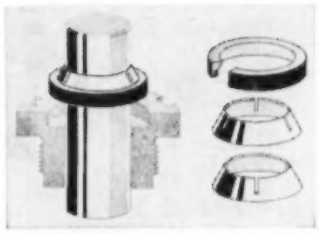
▲ Mention Item NED-1950 when writing ▲

FLOOR CARE SLIDE FILMS show proper maintenance methods

Entitled "Facts about Floor Care," two sound and color slide films are intended to train maintenance supervisors and crewmen in recommended procedures for cleaning and caring for various types of flooring. Each has running time of about 15 minutes. Part I deals with all maintenance operations on asphalt and rubber tile floors and illustrates many common injuries resulting from improper care and neglect. In part II, problem of maintaining or restoring lustrous finish to wood floors is considered. Attention is given particular problems encountered in varying ages, uses and previous methods of maintaining wood floors. Bookings are available to audiences of 20 or more. Film shown by **S. C. Johnson & Son, Inc.**, Dept. NED, 1525 Howe St., Racine, Wis.

▲ Mention Item NED-1951 when writing ▲

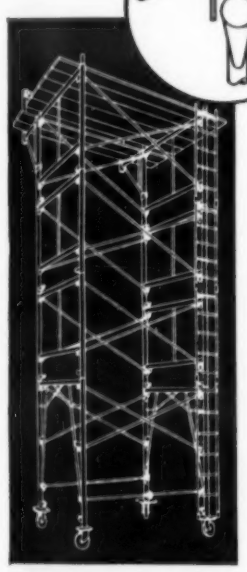
METALLIC ROD WIPER shields cylinder rod and packing



Hydraulic and pneumatic cylinder rods are permanently protected from falling or flying debris by Seal-Guard metallic rod wiper. Knife-edge conical surfaces of two flexible bronze rings mounted in synthetic rubber lift harmful substances completely off rod. Device is self-adjusting through action of rubber on staggered scraper rings and maintains close contact with rod at all times. Obtainable in wide range of rod sizes, wiper can also be used to protect machine spindles, guide bushings, retracting dowels or other close-fitting moving parts. Made by **Hydraulic Accessories Co.**, Dept. 124, 743 Beaubien St., Detroit 26, Mich.

▲ Mention Item NED-1952 when writing ▲

The Patented CAM LOCK* is the SECRET!



ADVANCE ROLLING TOWERS are faster to erect

All braces in ADVANCE Rolling Towers have self-contained Cam Locks which lock them instantly and securely to the panels by a flick of the wrist. Because of this patented feature, ADVANCE Rolling Towers are the fastest to erect and dismantle. They're safe, dependable, convenient. Tubular steel construction—standard, interchangeable parts for making towers of any height. Investigate ADVANCE before you buy.

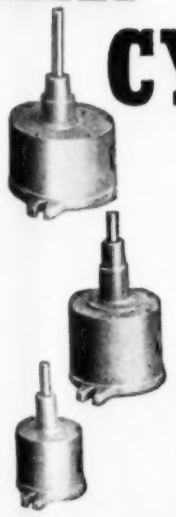
The Beaver line also includes tubular steel scaffolding and material hoisting towers. Write for literature.

* Pat. No. 2,483,862

BEAVER ART METAL CORPORATION 1202 Factory Ave., Ellwood City, Pa.

▲ Mention Item NED-1948 when writing ▲

SINGLE-ACTING AIR CYLINDERS



Bore	Strokes Horizontal	Strokes Vertical
1"	⅝"	⅝"
2¼"	1" 2" 3"	1" 2"
3"		½" 2"
4"	2" 2½"	2"
5"	3"	3"
6"	3"	2"

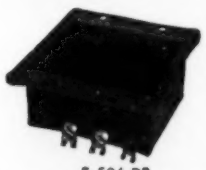
NEW CATALOG READY!
Complete line of simple, adaptable, compact spring-return air cylinders. Cut costs and speed up production the *modern*, Air Power Way. Write today.

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE., DEPT. N-30-A, CHICAGO 41, ILL.

▲ Mention Item NED-1949 when writing ▲

For HEAVY DUTY WORK! Severest Electrical Services

P-506-CE—Plug with Cap



S-506-DB
Socket with deep Bracket

JONES PLUGS & SOCKETS
500 SERIES
Proven Quality!

For 5,000 Volts, 25 Amperes per Contact Alterable by circuit Characteristics.

Socket contacts of phosphor bronze, knife-switch type, cadmium plated. Plug contacts hard brass, cadmium plated. Made in 2, 4, 6, 8, 10, and 12 contacts. Plugs and sockets polarized. Long leakage path from terminal, and terminal to ground. Caps and brackets, steel parkerized (*rust-proofed*). Plug and socket blocks interchangeable in caps and brackets. Terminal connections most accessible. Cap insulated with canvas bakelite.

Write for Jones BULLETIN 500 for full details on line.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▲ Mention Item NED-1953 when writing ▲

Proven Ability to cut Fuel Costs

ARMSTRONG STEAM TRAPS credited with savings up to 33⅓%

REPLACING leaky, inefficient steam traps with genuine inverted bucket Armstrongs has proved to be real economy in hundreds of plants now reporting fuel savings from 10% to 33⅓%.

Built for any pressure from 1 to 1500 psi, longer lasting Armstrong Steam Traps save fuel because their heat treated, chrome steel valves won't leak steam. Conserve scarce fuel stocks now by specifying Armstrong.

SEND FOR THE STEAM TRAP BOOK. 36 pages of data on design, construction, selection, installation and maintenance of Armstrong traps for all pressures, all services.

ARMSTRONG MACHINE WORKS
819 Maple St., Three Rivers, Michigan

▲ Mention Item NED-1954 when writing ▲

EVERY SINGLE PRODUCT Made by BOWSER ESTABLISHED 1885 Is Designed TO HELP SOME PLANT MANAGER CUT PRODUCTION COSTS!

...and MISTER: THAT'S IMPORTANT NOW!

This data may have the answers to some of YOUR PROBLEMS

It's Free to PLANT EXECUTIVES

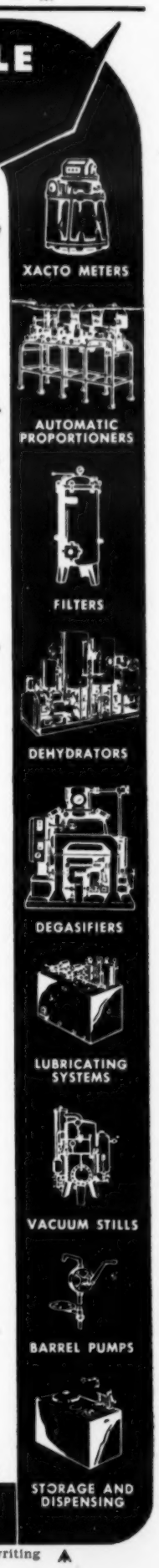
Bowser offers you *proved* ways to CUT COSTS by reducing labor, speeding production, preventing inventory losses and minimizing maintenance. Some of them may be just what *your* plant needs.

• • •

Write today for your copies of the above data. It will explain *how* and *where* Bowser equipment may fit into your picture.

BOWSER, INC.
1381 Creighton Ave., Fort Wayne 2, Ind.

LIQUID CONTROL SPECIALISTS SINCE 1885



▲ Mention Item NED-1955 when writing ▲

Glass Bushings

NOW AVAILABLE TO MANUFACTURERS OF ELECTRONIC EQUIPMENT

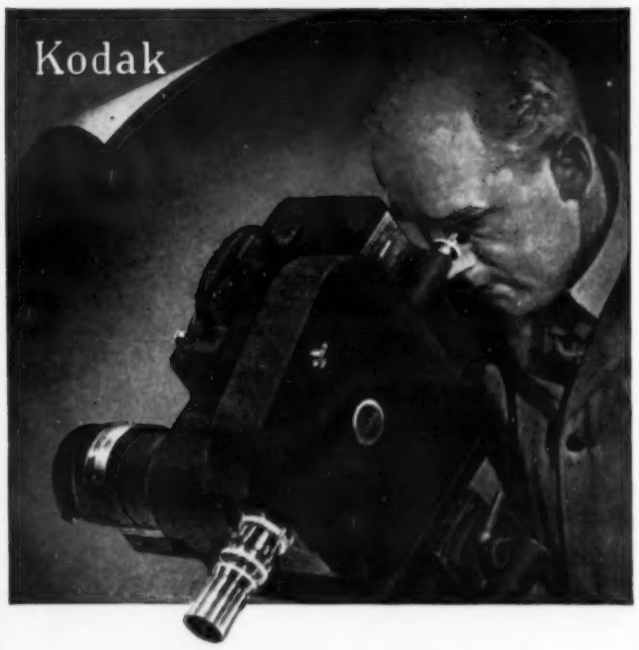
General Electric is now offering to other manufacturers the cast glass bushings it has used so successfully on many types of electrical equipment.

These bushings are cast of stable, low-expansion glass. They are attached directly to the apparatus without gaskets—by soldering, welding or brazing, thus forming a strong, permanent, vacuum-tight seal that eliminates moisture problems and often permits more compact, light-weight design.

Available to meet dry, 60-cycle flashover values of from 10 to 50 kv, and in current ratings of 25 and 50 amperes (in large sizes to 800 amperes), for single or multi-conductor. If you will send us a sketch and ratings of bushings you are now using, we will furnish you with samples of our standard glass bushings. See them and evaluate their advantages. Or write for our Bulletin GEA-5093, *Apparatus Department, General Electric Company, Schenectady, N. Y.*

GENERAL ELECTRIC

▲ Mention Item **NED-1956** when writing ▲



HOW TO GET A GOOD LOOK AT ACTION TOO FAST TO SEE

MANY machine parts move faster than the eye can see. Yet to see that they operate smoothly and have long life—they should be studied in operation under the stress of high speed.

This is the work of the Kodak High Speed Camera. With it you can take up to 3000 clear, well-defined pictures a second on regular 16mm. movie film. Projected at the standard 16 frames a second, this lets you study the motion at almost 1/200th actual speed.

Such studies have already spotted reasons for excessive wear, noisy operation, vibration, and early part failure. They have pointed the way to better product design and more efficient production methods.

The Kodak High Speed Camera is inexpensive to use—takes no specialized skill to operate. If you would like to see how it could help you, we shall send you our booklet, "Magnifying Time," which gives full particulars. Just mail the coupon.

EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N. Y.
"Kodak" is a trade-mark

Eastman Kodak Company
Industrial Photographic Division
Rochester 4, N. Y.

Please send me your booklet on the Kodak High Speed Camera, "Magnifying Time."

Name_____
Firm_____
Street_____
City_____ State_____

▲ Mention Item **NED-1957** when writing ▲

WOODWORKING MACHINES
suitable for light production work

Simplicity and safety are features of J-Line woodworking machines intended for use in light production plants; shipping and crating departments; and cabinet, pattern and maintenance shops. They are finished in horizon gray and ivory with dark gray trim, and handwheels and controls are chrome plated. Illustrated 20-in. band saw has cast-iron base and steel frame. Motor, V-belt drive and lower wheel are enclosed; and 24 x 24-in. table tilts 45 degrees right and 12 degrees left. Hinged table section permits easy removel of blade without twisting. Other machines in line include 8-in. jointer, 18 x 6-in. surfacer, 12-in lathe, mortiser, 16-in. disk sander, spindle sander and shaper. Made by **Yates-American Machine Co.**, 731 Third St., Beloit, Wis.

▲ Mention Item **NED-1958** when writing ▲

FLOW RATE GAGE
made in sizes from 3/4 to 4 in.

Flow rate of clear and opaque liquids, slurries and other fluids at temperatures up to 400° F and pressures to 500 psi can be measured by redesigned Magna-Sight gage. It is available in brass, bronze, iron, steel and type 316 stainless steel in six sizes with maximum capacities from 3.5 to 250 gpm. Accuracy averages within 5 per cent over scale range.

Unit consists of short body, with flanged or screwed pipe connections, which accommodates fixed orifice in lower end. Tapered metering plug rises and falls with fluid flow rate in accordance with variable area metering principle. Metering plug carries permanent magnet, and hollow cylindrical soft-iron follower rides in external slot. Covering slot is plate on which is engraved scale calibrated either in gallons per minute or in millimeters. Position of follower relative to scale indicates flow rate. Made by **Fischer & Porter Co.**, Dept. 1D-B1, 96 County Line Rd., Hatboro, Pa.

▲ Mention Item **NED-1959** when writing ▲

POWER ROLLER CONVEYOR
with portable or permanent base

Usable in handling hot articles or items with sharp edges, this Live Roller conveyor is ball-bearing equipped throughout and powered by 60-cycle 110-v ac Master gear-motor. Standard 2-in. rollers are employed, and spacing of from 1 to 5 rollers per foot can be specified in widths of 11½, 15, 18 or 24 in. for various length conveyors. Unit is intended for horizontal travel but is adjustable to convey certain items up 10-degree incline or hold them on decline. Made by **Metzgar Co.**, 416 Douglas St. N.W., Grand Rapids 4, Mich.

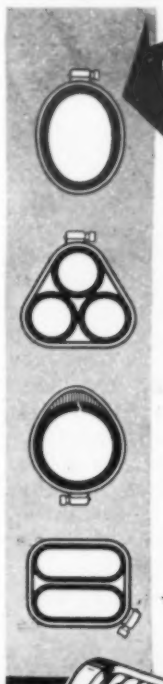
▲ Mention Item **NED-1960** when writing ▲

ELECTRONIC CONTROL
is sensitive to small temperature changes and maintains close limits

Operating on principle that resistance of wire-wound sensing element varies in proportion to temperature of control medium, model No. 077 electronic control is sensitive to temperature changes as small as 0.1° F. Device will control processing temperatures ranging from −20 to 300° F and is immune to vibration, dust and dampness. Where both control and recording are required, it can be used with indicating and recording instruments.

Sensing element forms one leg of Wheatstone bridge circuit so that any minute change in temperature causes bridge to become unbalanced and permits current to flow. Unbalance is imposed on electronic amplifier which amplifies and detects direction of unbalance to operate either of two output relays which in turn control motor. Made by **Minneapolis-Honeywell Regulator Co.**, 2950 Fourth Ave. S., Minneapolis, Minn.

▲ Mention Item **NED-1961** when writing ▲



Clamp Most Anything WITH "Aero-Seal"
THE UNIVERSAL WORM-DRIVE CLAMP

"No holds barred" with Aero-Seal. Clamp odd-shaped connections, join multiple pipes or ducts together firmly, permanently, with these durable steel clamps that conform easily to any shape. Worm drive prevents distortion at point of clamping; use again and again.

Vibration will not loosen. Integral construction—no parts to lose. Corrosion resistant—cadmium plated or stainless steel. Available for screw driver or thumb grip.

ANOTHER BREEZE MARK PRODUCT

WRITE TODAY FOR FREE SAMPLE!

"Aero-Seal" HOSE CLAMPS

AERO-SEAL Worm Drive Never Works Loose

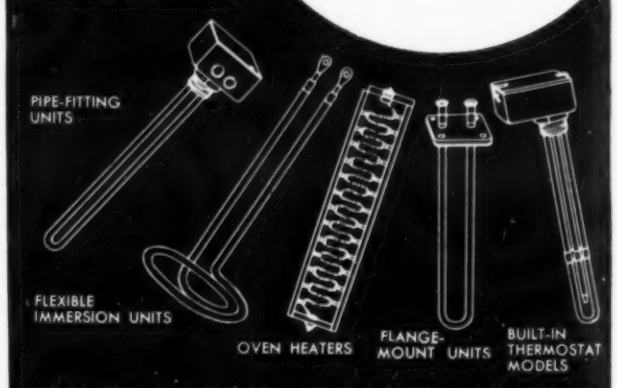
BREEZE CORPORATIONS, INC.
Aircraft Standard Parts Division
37 South Sixth Street, Newark 7, N. J.

▲ Mention Item **NED-1962** when writing ▲

THERMALINK Electric HEATING ELEMENTS

OVER 600 STANDARD MODELS & TYPES

IMPROVE YOUR ELECTRICALLY HEATED PRODUCTS AND EQUIPMENT WITH THERMALINK ELEMENTS



SPECIALISTS IN CORROSION-RESISTANT IMMERSION HEATERS

Write Dept. N for Literature

ELECTRO-THERM INC.
8024 GEORGIA AVE., SILVER SPRING, MD.

▲ Mention Item **NED-1963** when writing ▲

Here's Equipment Built to Stand Up Under Your Production Requirements for

METERED PRESSURE PUMPING
of Such Chemicals as:

SULPHURIC ACID • SODIUM HYDROXIDE
LIQUID CHLORINE • HYDROCHLORIC ACID
SLURRIES • CHLORINATED HYDROCARBONS
HYDROGEN PEROXIDE • NITRIC ACID
HYDROFLUORIC ACIDS • OLEUM • PROPANE
CYANIDE COMPOUNDS • STYRENE • FREON

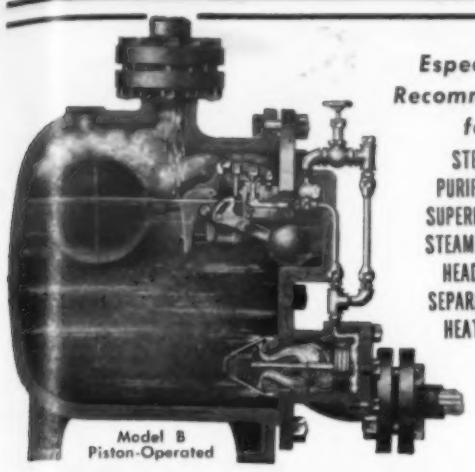
- NO STUFFING BOX OR RUNNING SEAL
- POSITIVE DISPLACEMENT PISTON MEASUREMENT
- FLOW RATE ADJUSTABLE WHILE IN OPERATION
- MANUAL OR AUTOMATIC CONTROL

Lapp PULSAFEEDER

PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

WRITE for Bulletin 262 with complete description and specifications.
LAPP INSULATOR CO., INC., PROCESS EQUIPMENT DIVISION, 214 MAPLE STREET, LE ROY, N. Y.

▲ Mention Item **NED-1964** when writing ▲



Especially Recommended for STEAM PURIFIERS, SUPERHEATED STEAM LINES, HEADERS, SEPARATORS, HEATERS,

Nicholson Super-Trap for

POWER SERVICE

Thousands of installations attest to the enormous drainage capacity of this Nicholson trap. Piston-operated and with valve orifices up to 2" diam., it discharges large volumes of water almost instantly. Other features: won't leak even if cooked dry; rugged; working parts of stainless steel. Press. 2 to 650 lbs. The lowest price large capacity trap. CATALOG 448.

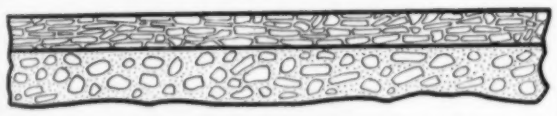
W. H. NICHOLSON & CO. 162 OREGON STREET WILKES-BARRE, PA.

Valves ★ Traps ★ Steam Specialties

▲ Mention Item NED-1965 when writing ▲

HARDEST IN THE WORLD

DEFIES WEAR



SELF PERPETUATING FERROUS HARDENED NATURAL EMERY STONE CONCRETE

Here is something entirely new which is revolutionizing the design and maintenance of concrete traffic surfaces.

Send for free descriptive literature today.

FLASH-STONE COMPANY, INC.

3723 Pulaski Ave., Philadelphia 40, Pa.

▲ Mention Item NED-1966 when writing ▲

How one manufacturer saves with STANLEY STEEL STRAPPING

Here's another typical example of the way Stanley Steel Strapping saves time and money shipping almost any product. Keystone Metal Moulding Co. of East Detroit cut packaging time 50% from former methods — slashed packaging costs a full 60%. Change was from small cartons to large carton on a skid. New carton closed, reinforced and bound to skid with Stanley Steel Strapping.

Write for details or have a Stanley representative call now. The Stanley Works, Steel Strapping Division, 177 Lake Street, New Britain, Conn.

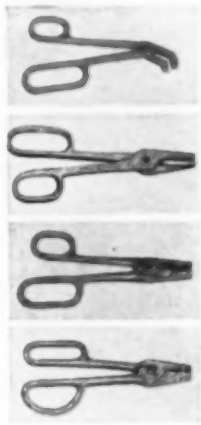
STANLEY Reg. U.S. Pat. Off.

Steel Strapping and Car Banding Systems

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

▲ Mention Item NED-1967 when writing ▲

MAGNESIUM SAFETY TONGS protect punch press operator



Constructed of lightweight magnesium, Flint safety tongs are long enough to keep punch press operator's hands completely out of danger without being heavy or fatiguing to handle. They have vise-like grip and are designed for minimum injury to dies when caught in press. Hand grip insures against abrasions when tongs are used on highly repetitive work. They can be furnished with or without springs. Styles available are No. 333 short handle heavy-duty type, 10½ in. long and weighing 6½ oz; No. 444 long handle heavy-duty tongs having 11½-in. length and 6½-oz weight; No. 555 hook nose type, 10½ in. long and weighing 5 oz; and No. 666 long handle light-duty style, 11½ in. long and weighing 5 oz. Made by **Northern Tool & Die Engineering,** 3922 N. Saginaw St., Flint 5, Mich.

▲ Mention Item NED-1968 when writing ▲

WOOD SAW BLADES for portable electric tools

DeLuxe circular saw blades are made in all regular sizes with center holes tailored to fit individualized mandrels of Black & Decker, Mall, Skilsaw, Thor and Porter Cable electric powered units. Blades can be obtained in cross-cut, rip and combination types to enable portable power hand saw operator to increase usefulness of his machine. Made by **Henry Disston & Sons, Inc.,** 929 Tacony St., Philadelphia 35, Pa.

▲ Mention Item NED-1969 when writing ▲

FORM CUTTING MACHINE cuts internal gears and splines

This Shear-Speed machine can cut almost any irregular shape providing it lends itself to form-cutting with radially fed tools. Machine can handle parts as small as 5.4 in. ID and as large as 20 in. ID. In operation, machine simply reverses tool-feed action used for cutting external forms. Using two inverted cones, tools are fed outward before each stroke of reciprocating work and its holder. They are retracted slightly before return stroke to prevent tool drag, and feed is decreased to finish feed as proper depth of cut is approached. When necessary, tools are reground by locking individual form tools together on magnetic chuck of surface grinder and removing 0.010 to 0.015-in. from top face. Made by **Michigan Tool Co.,** Cone-Drive Div., 7204 E. McNichols Rd., Detroit 12, Mich.

▲ Mention Item NED-1970 when writing ▲

FOR A QUICK, CLEAN SWEEP!

"BIG X" Dust MOP

Nationally famous. "BIG X" saves time—lowers labor cost. Snatches up dust on contact. A durable, heavy-duty giant, available in various widths up to 60". Can be removed from block and washed like new.

MAN-sized mops for MAN-sized jobs

Don't try to mop big areas with household types of mops. Instead, do as thousands of organizations do: Mop much faster and get much longer service *at lower cost* from "BIG X" Dust Mops, prize-winning 16-ply VICTORY Wet Mops, HOLZ-EM Applicators—for wax, seals, varnish, etc. **(Ask for free, illustrated specification sheets.)**

Prize-Winning 16-ply VICTORY Wet Mop

HOLZ-EM Finest of All Applicators

Your supplier has these mops or can get them for you from

AMERICAN STANDARD MFG. COMPANY

(MEMBERS OF THE NAT. SANITARY SUP. ASSOC.) • Incorporated 1908

CHAS. E. KREBS and WALTER O. KREBS

2516 SOUTH GREEN STREET • CHICAGO 8, ILLINOIS

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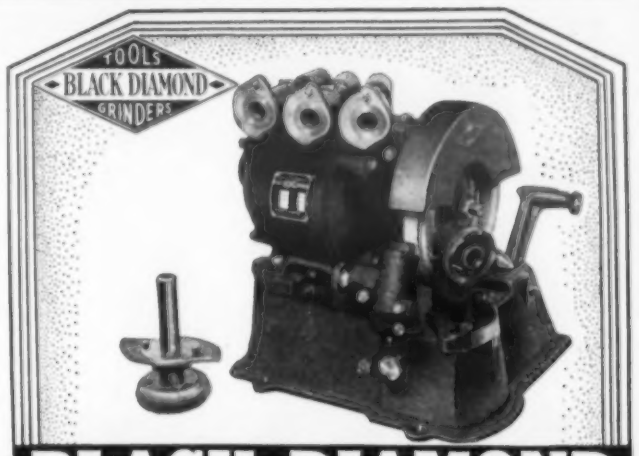

BLACK DIAMOND

PRECISION DRILL GRINDER

NATIONALLY RENOWNED FOR EFFICIENCY AND ECONOMY IN SHARPENING SMALL DRILLS.

BLACK DIAMOND GRINDERS cut 50% and more on drill grinding costs, sharpen without waste of expensive drill stock, reduce drill breakage and work spoilage to a minimum.

Anyone can operate a Black Diamond. Even the most inexperienced can keep all small drills sharp—and true centered, with smooth lips accurately ground to exactly the same length—at the proper angle and with correct clearance for fast, precision drilling.

The built-in Diamond Point Dresser keeps the grinding wheel ever-sharp and the Web Thinning Attachment cares for all types of notched points to perfection.

Whether you use drills singly or in gangs — by hundreds or thousands—this moderately priced machine—motor driven—will keep any supply quickly available.

ORDER YOUR BLACK DIAMOND TODAY—WRITE FOR NEW BULLETIN

BLACK DIAMOND SAW & MACHINE WORKS, INC.

NATICK, MASSACHUSETTS

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Here is why **ALCO-LITE** ALUMINUM LADDERS Cost Less!

ALCO-LITE Aluminum Ladders are twice as easy to handle as heavier, conventional ladders—saving expensive man hours.

ALCO-LITE Aluminum Ladders cannot rust, rot, burn, or deteriorate in any way—reducing lost time and compensation resulting from accidents.

ALCO-LITE Aluminum Ladders last a lifetime under ordinary conditions—repair and replacement costs are negligible.

TYPE 100 FOLDING STEP LADDER
Equipped with bucket rest . . . ideal for cleaning and painting. Corrugated 4-inch steps and rubber non-slip feet. Slope of steps is 18° for all sizes.

WRITE FOR INDUSTRIAL LADDER CATALOG

Pioneer Builders Of Lightweight Industrial Ladders

ALCO-LITE ALUMINUM LADDERS

ALUMINUM LADDER COMPANY

346 CARBIS STREET • WORTHINGTON, PENNA.

▲ Mention Item NED-1973 when writing ▲

SAFEGUARD for QUALITY CONTROL

Check Gages Periodically against JO-BLOCK Standards

The accuracy-assurance of world-famous Johansson Gage Blocks, now made by Brown & Sharpe, is vitally important wherever Quality Control is important. Jo-Blocks show up the slightest deviation in accuracy of working gages caused by wear or accidental damage. Made to accuracy standards of ±.000002, .000004 and .000008 of an inch.

In nearly any industry employed in precision production, these gages have many useful applications. Write for latest information. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.

We urge buying through the Distributor

BROWN & SHARPE B&S

▲ Mention Item NED-1974 when writing ▲

"DROP-FORGED" to Insure Ruggedness and Long, Dependable Service

WOLVERINE Toggle Clamps are preferred wherever speed, strength, durability, versatility and economy are essential in solving clamping problems. Write for Bulletin C-649.
IMMEDIATE DELIVERY

SINCE 1926

WOLVERINE TOOL CO.
1482 E. Woodbridge • Detroit 7, Michigan

THERE IS A TYPE AND SIZE OF WOLVERINE CLAMP TO SUIT YOUR NEEDS

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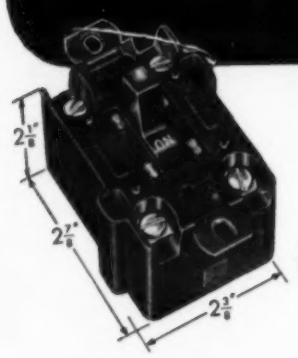
DEPENDABLE ACTION
POSITIVE PROTECTION



ARROW AH HART

LOAD-LIMIT

MANUAL STARTERS WITH OVERLOAD PROTECTION

FOR AC or DC MOTOR CONTROL

Over 100,000 Arrow-Hart "LOAD-LIMIT" Starters have been sold to satisfied customers who come back for more. They're easy to install, inspect and maintain — give you positive protection for operator, machine and work.

Ruggedness, dependability and long, trouble-free service are built into each unit; each component is designed to serve the most exacting requirements. Looking for quality, economy and flexibility in your motor controls? Specify, buy or use this Arrow-Hart "LOAD-LIMIT" Manual Starter for complete satisfaction.

✓ CHECK THESE FEATURES

No. 28203

No. 28203-W

A-H exclusive design in release gives positive overload response • Positive trigger and latch gives dependable tripping • Push START button to relatch, reset • All components vibrationproof • Interchangeable heaters to match motor ratings • Control 2 motors with 1 unit • Mount front or back of panel up to ½" thick.

The A-H "LOAD-LIMIT" Manual Starter is made in types to suit every need — in 2-, 3- and 4-pole models, in ranges to give overload protection to motors rated up to 5 H.P., single and polyphase, through 440 Volts AC and 2 H.P., 230 Volts DC, listed as standard by U.L. The Standard model can be surface mounted — and, by means of springmount screws in case, can be mounted in front or back of panels up to ½" thick. Weatherproof models are tightly sealed to perform under the most adverse conditions; are available in same range of ratings as Standard types. One case is used for all sizes of units.

WRITE TODAY FOR LITERATURE
6003 HAWTHORN STREET
HARTFORD 6, CONN.

CONTROLS and APPARATUS FOR Outstanding PERFORMANCE

ARROW AH HART

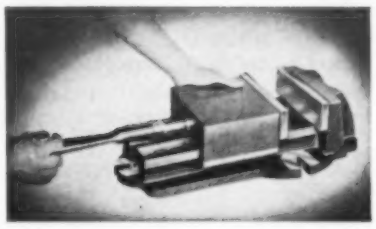
ARROW-HART
THE ARROW-HART & HEGEMAN ELECTRIC COMPANY
HARTFORD 6, CONN. U.S.A.

BRANCHES IN: Boston, Chicago, Cleveland, Cincinnati, Dallas, Denver, Detroit, Los Angeles, New York, Philadelphia, San Francisco, Syracuse.
IN CANADA: ARROW-HART & HEGEMAN (Canada) Ltd., Mt. Dennis, Toronto

Stock available at all branches except New York and Denver.

▲ Mention Item NED-1977 when writing ▲

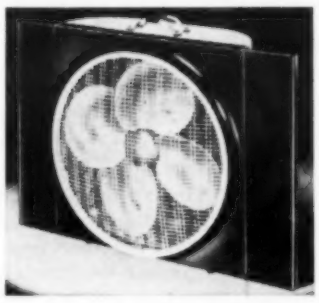
MACHINE VISE
jaws open quickly to full capacity



Usable on milling machines, drill presses and shapers, model 8 precision vise has 8-in. wide jaws that open to 11 in. instantly and apply gripping pressure by slight turn of wrench. Body of vise weighs 85 lb and sliding block 40 lb. Because two separate quickly, one man can move and set up unit alone. Jaws and rails for sliding block are hardened and accurately ground for long use. Made by **Ames Precision Machine Works**, 131 Lexington St., Waltham 54, Mass.

▲ Mention Item NED-1978 when writing ▲

PORTABLE WINDOW FAN
has 1400 or 1200-cfm output



This portable window fan can be obtained as 14 or 16-in. model with two-speed switch that offers high velocity position for rapid cooling and slow gentle air-moving position. Dimensions are 18⅞ x 18⅞ x 10 in., and unit weighs 20 lb. Fan is powered by lifetime lubricated G-E direct drive motor that can be used at any angle of discharge. Features include 10-ft cord; adjustable handle that acts as locking device when fan is in window; and base equipped with resilient rubber bumpers that prevent scratching of window ledges, tables, or floors. Made by **Air Controls, Inc.**, 2300 Superior Ave., Cleveland 14, O.

▲ Mention Item NED-1979 when writing ▲

POWER VACUUM-SWEEPER
cleans over 43,500 sq ft per hour

This vacuum cleaner equipped power sweeper is powered by 4.4-hp air cooled gasoline engine. Two-speed transmission gives sweeper wide operating range, speeds up to 8 mph for open areas and as low as 2 mph for safe handling in narrow aisles and crowded areas. Since brush and fan are powered directly from engine, soilage pick-up is as efficient at low as at high speeds. In operation, 24 in. wide brush revolves inside sealed-to-floor compartment and hurls dirt into enclosed built-in floating type hopper; at same time powerful vacuum fan draws dust into heavy fabric bag. Sweeper is equipped with automotive type steering and foot and parking brakes and can be obtained with various types of brushes. Made by **G. H. Tennant Co.**, 2586 N. Second St., Minneapolis 11, Minn.

▲ Mention Item NED-1980 when writing ▲

ROTARY LAPPING MACHINE
has 24-in. diameter lapping plate

Superfine finishes and true contact surfaces are obtained on small and medium sized parts with this rotary lapping machine. It is particularly suitable for cylindrical machined parts, small flat work, small pump housings and valve fittings. A ¾-hp motor and V-belt drive transmit power through worm gear reduction and roller-bearing spindle to impart smooth rotary motion at constant speed to lapping plate.

Flat lapping is accomplished by subjecting plane surface of work to continuous rotary abrasion of lapping plate which can be charged with suitable lapping compound. Cylindrical work is held on centers in fixture which is provided and is rolled in contact with rotating plate. Features include drip pan to trap overflow of compound, circular table guard which is removed easily for cleaning, roller-bearing support and sealed lubrication. Made by **Taft-Peirce Mfg. Co.**, 32 Mechanics St., Woonsocket, R. I.

▲ Mention Item NED-1981 when writing ▲

Sixth in a series of Unusual Grinding Wheel Operations

● The delicious chocolate flavor of Hershey's and other brands of chocolate, starts with the grinding of the dried cocoa beans. Pulverizing the bean by grinding, rather than by any other process, retains the original flavor.
Whatever YOUR grinding problem may be, BAY STATE can solve it . . . fast. Possibly the exact specifications to meet your requirements can be supplied directly from large stocks either in Westboro, branch warehouses, or from our distributors strategically located throughout the United States.
Send us your grinding problems. We can help you.

These mills, using fine, hard grinding wheels convert the dried cocoa beans into rich chocolate liquor. Courtesy of Hershey Chocolate Corporation

BAY STATE ABRASIVE PRODUCTS CO.
Westboro, Massachusetts, U. S. A.
Branch Offices and Warehouses — Chicago, Cleveland, Detroit, Pittsburgh.
Distributors — All principal Cities.

BAY STATE

MEMBER OF THE GRINDING WHEEL INSTITUTE

Top Performance Consistently Duplicated

▲ Mention Item NED-1982 when writing ▲

ON THE LEVEL
you'll save time and money with

3 SIZES
No. 1—2" normal height
No. 2—2⅝" normal height
No. 3—3⅛" normal height

POSITIVE, ACCURATE MEANS FOR SETTING AND KEEPING MACHINES LEVEL IN A MERE MATTER OF MINUTES!

Machine Tool Manufacturers strongly emphasize the need, not only to set machines level, but to keep 'em that way. Periodic re-leveling is essential for accurate work tolerances. How often, depends on the type of foundation. No method of machine setting is stable enough to maintain the accuracy of initial leveling. It is important to check after first month of operation, then check periodically and re-level whenever necessary.

When a machine is set on EMPCO JACKS, the whole operation is the work of but a moment: Simply apply a wrench to the "hex" screw head, turn right or left until your level indicator reads "zero."

EMPCO

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVE. DETROIT 12, MICH.

▲ Mention Item NED-1983 when writing ▲

New... BEAUMONT "BEAUCALLOY" BUCKET ELEVATOR CHAIN

Beaumont "BEAUCALLOY" Chain cuts maintenance costs through *great increase in service life.* At present test installations these chains have been in operation more than twenty times longer than former malleable iron chain—*and still show little sign of wear.*

Besides utilizing Beaucalloy, a heat-treated alloy steel, Beaumont developed a new link design which provides additional metal on the barrel where wear occurs. In addition, the chain maintains almost steady contact during rotation on sprocket or traction wheel—reducing wear on barrel, pin and sprocket.

Write—without obligation—for data sheets or for our representative to call.

Beaumont BIRCH COMPANY
1514 RACE STREET • PHILA. 2, PA.

DESIGNERS • MANUFACTURERS • ERECTORS • BULK MATERIAL HANDLING SYSTEMS

▲ Mention Item NED-1984 when writing ▲

If You Need Accurate Heat—CHECK

CHROMALOX
Electric
HEATING UNITS

• FAST! • EASILY CONTROLLED!
• ECONOMICAL! • ALWAYS ON THE JOB!

CHROMALOX Heaters give you unfluctuating, trouble-free electric heat that will increase efficiency and cut costs in your production lines or processes requiring heat. Compact CHROMALOX Heaters are quickly installed in air ducts, tanks, ovens, dies, molds and other equipment. They are especially useful where exact temperature control and dependable service are critical. Check this reliable heat source now!

Ask for Catalog 50

It lists over 10,000 types, sizes and ratings of electric heaters especially designed for industrial applications. Write today.

EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.

See other advertisement on page 4

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ Mention Item NED-1985 when writing ▲

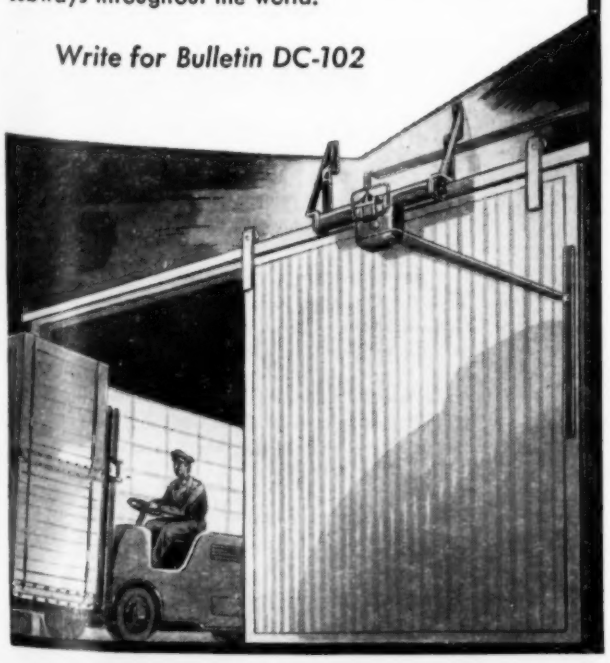
KEEP YOUR DOORS
closed
when not in use

NP

PRE-ENGINEERED
Pneumatic
DOOR OPERATORS

SPEED UP material handling . . . isolate dust, fumes and fire hazards . . . reduce costs of air-conditioning and heat . . . increase productive time of employees, with N. P. air-powered Door Operators. They embody the same dependable N. P. Air Engines used to open and close the car doors of the great metropolitan subways throughout the world.

Write for Bulletin DC-102



NATIONAL PNEUMATIC CO., INC.
INDUSTRIAL DIVISION
Boston • Graybar Bldg., New York • Chicago

Pneumatic Specialists Since 1904

▲ Mention Item NED-1986 when writing ▲

WATER DEMINERALIZER
employs ion-exchange principle to supply mineral-free water

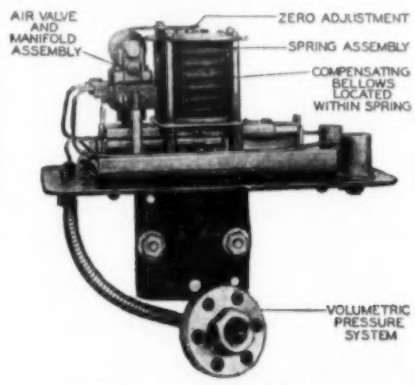
This self-contained portable Deeminizer water demineralizer produces water equivalent in ionic purity to triple-distilled. Unit can be placed anywhere and operated immediately without preparation. It has capacity of approximately 5 gph and is recommended for chemical laboratories, photographic studios, battery servicing, and electroplating establishments.

Deeminite ion-exchange resin is active chemical material that holds mineral ions coming into contact with it. It is packed in tower of device and untreated water allowed to flow through it under influence of gravity. Corrosionproof electrodes built into walls of lower reservoir permit accurate conductivity meter to indicate purity of water in parts of mineral content per million. Made by **Crystal Research Laboratories, Inc.,** 29 E. Allyn St., Hartford 3, Conn.

▲ Mention Item NED-1987 when writing ▲

PRESSURE TRANSMITTER
has standardized 3 to 15-psi output and adjustable operating ranges

Enabling measurement and transmission of pressure changes over distances up to 1000 ft with accuracy of ½-per cent range span, Transaire force-balance type pressure transmitter offers close control to instrument users. Narrow range spans of 20 to 40 psi are available over range limits of 35 to 415 psi absolute with sensitivity of 0.1, 0.02 or 0.04-psi depending on range span used.



Type 316 stainless steel is used in volumetric pressure system to combat any corrosive effect of process materials. Regardless of pressure range or span, output of transmitter is always linear, and calibration feature eliminates individual calibration of matching receivers or receiver-controllers. Instrument transmits output pressure that is proportional to measured pressure with accuracy within 0.06-psi. When operating conditions change or it is necessary to transfer instrument from one application to another having operating range beyond range limits, transmitter is constructed to allow spring subassembly to be changed. Made by **Taylor Instrument Cos.,** 53 Ames St., Rochester 1, N. Y.

▲ Mention Item NED-1988 when writing ▲

Chemical Resistant
RUBBER PARTS

FEATURE LONG SERVICE LIFE UNDER HIGHLY CORROSIVE CONDITIONS

Excellent resistance to chemicals, both concentrated and diluted, is feature of rubber parts fabricated from the new STALLITE 863 compound. This new rubber is recommended for parts subject to aniline, acetone, ethyl chloride, and numerous other chemicals.

STALLITE 863 has high resistance to animal fats, vegetable oils, ozone, oxygen, acids, alkalies, steam, extreme weathering, sunlight and dry heat.

STALLITE 863 rubber parts have outstanding flex and abrasion resistance, and dielectric properties make them suitable for use in electrical equipment.

The Stalwart Rubber Company can furnish molded, extruded, and die-cut rubber parts fabricated from STALLITE 863 for use as seals and stoppers for chemical containers, gaskets and washers for systems handling highly corrosive acids or alkalies, tubing for installation in corrosive atmospheres, or for conveying dilute or concentrated chemicals.

Write for complete specifications today.

Specify Stalwart for Quality Custom Rubber Products
STALWART RUBBER COMPANY
3151 Northfield Road
BEDFORD, OHIO

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For the latest in new equipment don't miss the—

INDUSTRIAL
Cost-Cutting
EXPOSITION
APRIL 10-14 (inclusive) PHILADELPHIA, PA.
Write for an advance registration form
AMERICAN SOCIETY OF TOOL ENGINEERS
10700 Puritan • Detroit 21, Mich.

▲ Mention Item NED-1990 when writing ▲

Many uses for JOHNSON BRONZE BARS

BUSHINGS, bearings, thrust plates, etc., can be cut from Johnson Universal Bronze Bars as you need them. These bars are completely machined outside diameter, inside diameter and ends. No waste . . . no defects. Cored bars are available in inside diameters from ½" to 7¾", and outside diameters from 1" to 10", in a range of wall thicknesses. Solid bars from ⅝" to 8" diameters. Complete stock is maintained by distributors and warehouses.

WRITE TODAY FOR CATALOG

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
580 SOUTH MILL STREET • NEW CASTLE, PA.

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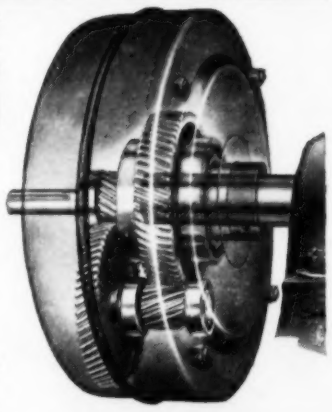
How You Can Get SLOW SPEEDS at LESS COST!



Here is a unique reduction drive that can transform your special, slow-speed problems into simple, efficient high-speed installations . . . using STANDARD motors, STANDARD V-Belts, STANDARD sheaves—all available from distributors' stock. Lower in first cost. Inexpensive to install. Six sizes of Reduction Units give you any speed below 154 rpm for drives up to 25 hp. Here's the secret: AMERICAN Reduction Drives PUT THE GEARS WHERE THEY BELONG—right on the shaft of the driven machine! Write for descriptive catalog, now.

The American Pulley Company • 4290 Wissahickon Ave. • Phila. 29, Pa.

AMERICAN
REDUCTION DRIVES

SHOW ME . . .
. . . how to save by standardizing my slow-speed drives. Please rush my free copy of The American Drives Data Book.

NAME TITLE
COMPANY
ADDRESS
CITY STATE

▲ Mention Item NED-1992 when writing ▲

It says "STOP" to Solids— "GO" to Fluids

Here is a BETTER Strainer to "police your pipelines"

• FIRST—*The Screen*, a high-grade, woven Monel wire basket that catches solids—lets condensate, oil or other fluids flow freely.

• SECOND—*Finish*. Cadmium plated for protection against corrosion and for better appearance.

• THIRD—*Easily Cleaned*. Blow-off bushing made for easy removal. Bushing and Screen come out together. Screen automatically aligns on reassembly.

• THOUSANDS IN SERVICE—Sold by over 150 Mill Supply Houses. 6 sizes from ½" to 2" for pressures up to 600 lb. Reasonably priced.

See your supply house or write for Bulletin S-201.

YARNALL-WARING COMPANY
131 Mermaid Ave., PHILADELPHIA 18, PA.

YARWAY STRAINERS

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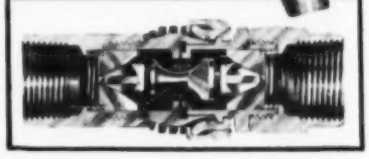
WHEN YOU . . .

Disconnect, You Stop the Flow in *Both* Ends

Wherever the flow of air, fluids, or gases must be interruped, Wiggins *INST-O-MATIC* couplings are lowering costs. Uncouple a Wiggins. You've automatically stopped the flow in both ends. Connecting, or disconnecting, is as simple as switching on a light. Wiggins *INST-O-MATIC* couplings can increase efficiency in your plant today, and lower costs.

EQUIPMENT MANUFACTURERS

Users' experiences prove conclusively that this design stands up longer under extreme pressure and vibration, and rarely requires replacement. Inquire today.



BASIC SIZES: ¼", ½", ¾"; also intermediate sizes where needed. Unconditionally guaranteed to be leak proof from 0 to maximum recommended pressure.

Wiggins

QUICK DISCONNECT INST-O-MATIC COUPLINGS

For proof of performance, write for name of nearest representative. E. B. WIGGINS OIL TOOL CO., INC., 3424 E. Olympic Blvd., Los Angeles 23, Calif.

REPRESENTATIVES IN PRINCIPAL CITIES

▲ Mention Item NED-1994 when writing ▲

GET "Coordinated" MOTOR-CONTROL SERVICE

IN THE SAME PLANT in which Allis-Chalmers builds its famous *Safety-Circle* motor line it also has Control Experts who recommend exact matching motor starters on every motor order.

It is their business to make certain that important starter details such as type, size, enclosure and protective devices are correct for your application.

Whether you are investing in motors-and-starters or starters alone, this time and money-saving experience is at your service. Remember . . . for a type and size starter to fit *any* motor requirement, call your nearby A-C authorized dealer or Sales Office. Or write for Bulletin B-7132. A-2931

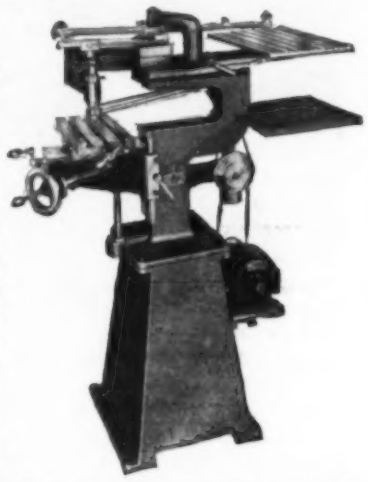
ALLIS-CHALMERS, 918A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS

▲ Mention Item NED-1995 when writing ▲

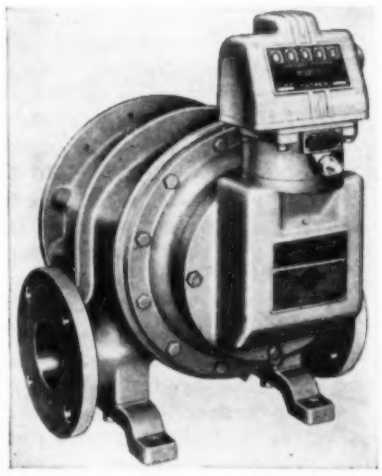
ENGRAVING-PROFILING MACHINE
engraves to center of 30-in. wide panel or 30-in. diameter dial

Two-dimensional engraving and profiling can be performed by model 2D-4 Panto-Engraver machine on nameplates, large panels and signs, steel dies, stamps and other objects. Pantograph ratios range from 1:1 to infinity. Pantograph, cutter spindle and spindle links are mounted in precision angular contact ball bearings which assure accurate assembly and easy adjustment. Powered by ¼-hp motor, cutter spindles operate at six speeds from 5000 to 14,000 rpm. Standard work table is 6 x 12 in. with three T-slots, but auxiliary 18 x 24-in. work table with four T-slots can be supplied for engraving large panels or dials. Maximum height of work is 6 in., cross feed 6 in. and longitudinal feed 6½ in., with all dials graduated in 0.001-in. In addition to collet for standard tapered shank cutters, collets from 1/10 to ¼-in. diameter are furnished for straight shank cutters. Machine can be supplied as bench or floor model. Made by **H. P. Preis Engraving Machine Co.**, 663-E Highway 29, Hillside 5, N. J.



▲ Mention Item NED-1996 when writing ▲

ROTARY LIQUID METER
350-gpm unit for up to 125 psi

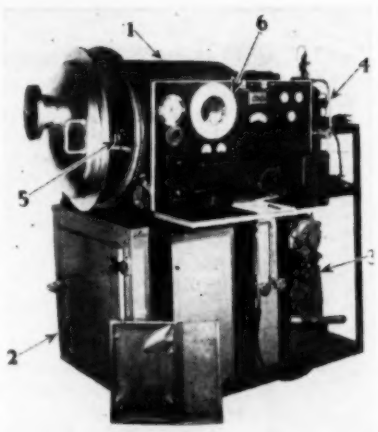


Featuring dynamic balanced rotor assembly, Rotorol rotary meter is usable for petroleum, industrial, marine and other liquid measuring applications. Fitted with standard 3-in. pipe flanges, it can be installed vertically or horizontally. Positive displacement measurement is accomplished in precision chamber during each quarter-revolution of rotor. Simple gear change permits flow through meter in either direction. Stainless steel ball and needle bearings are used. Interior rotating parts are die-cast aluminum, anodized aluminum and cadmium plated steel to resist rust and corrosion. Meter is obtainable with large-numeral straight-reading dial or ticket printer. Dial can be set to face any of eight directions. Made by **Bowser, Inc.**, Lubrication & Filtration Div., 1391 E. Creighton Ave., Fort Wayne 2, Ind.

▲ Mention Item NED-1997 when writing ▲

ABSORPTION HEATING UNIT
safely dries delicate materials

Heat-sensitive materials such as certain chemicals, pharmaceuticals, foods, biologicals, and medical and surgical supplies can be dried without harm by means of selective absorption heating unit. It dries materials while frozen and leaves them unchanged chemically.



Method of operation uses infrared radiation in certain wave lengths in fundamental vibration region where radiant energy is absorbed selectively by different materials, depending upon their chemical composition. This makes it possible to select radiation in region where greatest percentage of energy will be absorbed by water in product to be dried. Material can be in glass containers or on special trays having transparent bottoms. Illustration shows, in numerical order, vacuum chamber, freezer cabinet, vacuum pump, refrigeration system, heater frame and control panel. Made by **Proctor & Schwartz, Inc.**, 702 Tabor Rd., Philadelphia 20, Pa.

▲ Mention Item NED-1998 when writing ▲

A Simple, Dependable

MOTOR OPERATED VALVE

IF YOU are looking for a simple, economical and dependable motor operated flow control valve, you can't beat the Davis No. 300. It is equipped with a standard motor assembly, connected directly to the valve stem. Because the motor is adaptable to standard thermostat control, this valve is popular for steam or hot water heating system service, particularly where zone control is desired. Also used extensively to shut off house or processing water supply, in event of fire, diverting entire water supply to automatic sprinklers, operation being accomplished through the sprinkler alarm system.

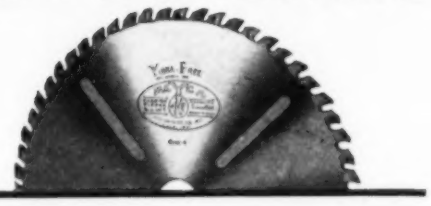
No. 300 is available in sizes from ½" to 6". Balanced or single seated inner valves for various service requirements. Other designs for higher pressures and larger sizes. Bulletin on request.

DAVIS REGULATOR CO.
2531 S. Washtenaw Ave.
Chicago 8, Illinois

▲ Mention Item NED-1999 when writing ▲

VIBRA-FREE*

CARBIDE TIPPED MEYCO SAWS



You will be interested in this radically new development IF your carbide tipped saws sound like a police siren; IF they develop a "snaky" cut after short usage; IF they dull fast because carbide tips become chipped.

MEYCO VIBRA-FREE* saws embody a new principle in saw design, a new control over vibration by the use of sound absorbing dampers, which eliminate excessive vibration, excessive noise . . . produce smoother cuts, longer blade life, longer life for carbide tips. You get MORE cuts between sharpenings and operators LIKE to use Vibra-Free* blades. Investigate this revolutionary development TODAY. Write for full information and price list:

* Patent Applied For.

62 YEARS OF FINE CUTTING TOOLS

W. F. MEYERS CO., INC., BEDFORD, INDIANA

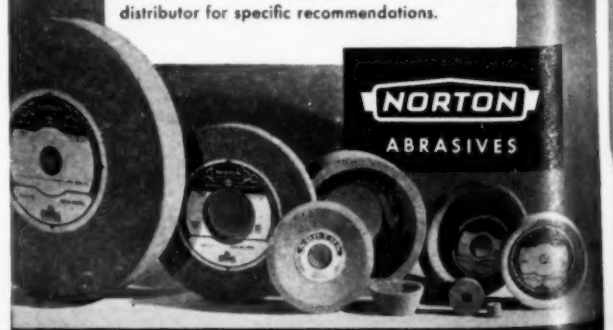
▲ Mention Item NED-2000 when writing ▲

IT'S REALLY EASY to CUT TOOL ROOM COSTS with 32 ALUNDUM WHEELS

They cut faster—they cut cooler—they require fewer dressings—they last longer. They're made of the new, Norton-developed aluminum oxide abrasive.

Yes, in tool room after tool room they are finding that grinding costs go down when they use "32" wheels to sharpen their high speed steel and cast alloy tools.

Call in your Norton abrasive engineer or Norton distributor for specific recommendations.



NORTON ABRASIVES

NORTON COMPANY, WORCESTER 6, MASS.

▲ Mention Item NED-2001 when writing ▲

Easy does it! with

BLACKMER HAND PUMPS

for SAFETY

GOOD HOUSEKEEPING & ECONOMY

. . . in any plant where liquids are dispensed.

Promote clean, safe floors, reduce fire hazards and save valuable liquids with these low-cost pumps.

Pump complete with crank, positive shutoff spout, drip pan with overflow back to container, and 1" x 42" long suction pipe for use on drums, barrels or other containers. Ten gallons per minute. Bung is threaded for 1½ and 2-inch openings. Constructions: bronze-fitted, all iron, all bronze.

A permanent base unit pumps fuel or other liquids and oils from underground tanks. Below-ground storage is especially desirable where highly inflammable liquids are handled. The unit includes pump with crank and supporting stand with base, which acts as the suction pipe, and is threaded in the base bottom and side for ¾" connections. A 12" discharge pipe is equipped with hose holder and 8 feet of gasoline-resistant hose with nozzle. Vacuum breaker for fast hose drainage is optional. 10 GPM capacity.

Unit consisting of pump with crank, 1" x 40" suction pipe, straight or taper bung, 1" x 12" discharge pipe with hose holder and vacuum breaker for fast draining of hose, 8' of ¾" lined hose with bronze nozzle. Capacity, 10 gallons per minute. Widely used to transfer gasoline, diesel fuel and oil.

FOR DISPENSING POINTS IN PLANT—WAREHOUSE—STORES

Write for HPS—Hand Pump Bulletin

BLACKMER PUMP COMPANY
GRAND RAPIDS, MICHIGAN

▲ Mention Item NED-2002 when writing ▲

Interchangeable PUNCHES and DIES

HAS THEM

If you require either standard round punches (for piercing up to ⅛" thickness) or heavy duty round punches (for over ⅛") they are available in either water-hardening tool steel or high speed steel. With this broad selection you can economize on nearly all your piercing applications by relying entirely on punch and die interchangeability.

If you have questions regarding which type of standardized interchangeable punch die is best suited to your needs, let our engineering staff help you. Or, if you need special punches or dies, with or without the interchangeable feature, can produce them promptly—in any size, shape or material.

Get your complete story in this free catalog

ALLIED PRODUCTS CORPORATION

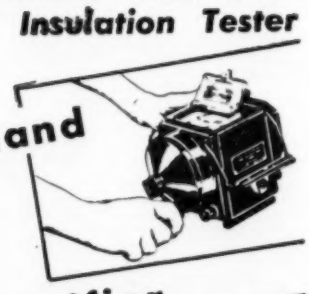
Department 41 • 12629 Burt Road • Detroit 23, Michigan

▲ Mention Item NED-2003 when writing ▲

Presenting

The Dual-Operated Meg Type of Megger® Insulation Tester

operate by hand *for field tests*



or

plug-in the rectifier *for repetitive or time tests*

This combination of the popular, constant-voltage, hand-cranked set, and a separate rectifier, can be operated either by hand or by the rectifier connected to 115 v. 60 cycles.

Our new Bulletin 21-46-D illustrates and describes it fully. Write for it today.

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ Mention Item NED-2004 when writing ▲

New Processes and Materials

METAL-CERAMICS have high thermal shock resistance

Consisting of mixture of metal and ceramics, Metal-Ceramic materials have unique physical characteristics, especially at elevated temperatures. Properties include high strength, high abrasion resistance and intermediate electrical and thermal conductivity. Materials are suitable also for machining and electroplating. Suggested uses include dies for hot forming, containers for high temperature furnace work, jet engine and rocket components, flux resistant welding and brazing fixtures, electrical contacts and spark plug electrodes. Made by **P. R. Mallory & Co.**, Special Metals Div., 3027 E. Washington St., Indianapolis 6, Ind.

▲ Mention Item NED-2005 when writing ▲

HEAVY-DUTY RUBBER MAT is oil-resistant nonskid type

Measuring 32 x 32 in., this PB nonskid surface heavy-duty industrial rubber mat is particularly suited for operators of drill presses, lathes and similar shop equipment. Several mats can be laid together to cover large working areas or cut apart to surface stairs and other small areas. Pattern design features large rubber blocks and grooves on underside to prevent slipping under wet or oily conditions. Made by **Byron Jackson Co.**, Patterson-Ballagh Div., Dept. 18, P. O. Box 2493, Terminal Annex, Los Angeles 54, Calif.

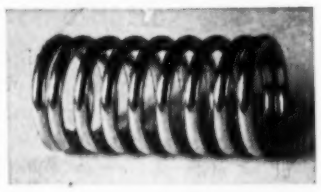
▲ Mention Item NED-2006 when writing ▲

COLD-SETTING ADHESIVE joins polyethylene film to paper

Polyethylene film can be adhered to both regular or bleached kraft paper without heat as sealing medium by use of this cold Resyn adhesive. It is usable with high-speed machines in fabrication of polyethylene lined kraft bags. Promising results are also being obtained in adhering polyethylene to cloth and burlap, foil and to itself. Made by **National Adhesives**, 270 Madison Ave., New York, N. Y.

▲ Mention Item NED-2007 when writing ▲

STAINLESS STEEL precipitation-hardening alloy in sheet, strip, plate and wire form



Having strength and hardness of high carbon spring steels, 17-7 PH precipitation-hardening stainless steel has corrosion resistance closely approaching that of 18-8 stainless steel. It is usable for springs, pressure tanks, diaphragms and disks, conveyor parts, spring clips, washers and similar parts. Yield strength in compression is equal to or higher than yield strength in tension. Alloy is available in soft temper strip, sheet and plate; hard temper sheet and strip; and hard and extra hard temper wire.

In soft temper condition, alloy can be severely formed or drawn and welded by resistance, metallic-arc and inert gas shielded-arc methods. After fabrication, its full strength and hardness are developed easily. Soft temper sheets when fully hardened have tensile strength in range of 185,000 to 205,000 psi, yield strength of 160,000 to 190,000 psi and hardness of Rockwell 40 to 45 C.

Hard temper sheet and strip have fabricating properties equal to type 301 full hard temper stainless steel. In this condition, material can be punched, blanked, flanged and dished to moderate degree. Tensile strengths over 255,000 psi and Rockwell hardnesses over 51 C are developed; even higher strengths and hardnesses are possible in very thin gage material.

In wire form, alloy can be wrapped on its own diameter and develops properties similar to those of best carbon steel music wire. After hardening, it has tensile strength of 260,000 to 345,000 psi, yield strength of 250,000 to 340,000 psi, hardness of Rockwell 50 C and up, and proportional limit in torsion of 150,000 to 180,000 psi. Wire is also available mill treated at 850° F and in this condition is designated extra hard temper. Made by **Armco Steel Corp.**, 1000 Curtis St., Middletown, O.

▲ Mention Item NED-2008 when writing ▲

1 SOURCE FOR ALL PARTS YOU NEED

LOCK WASHERS

High carbon steel, bronze, aluminum, stainless steel, monel metal, spring lock washers . . . finished or plated with cadmium, nickel, brass or copper. Also Garrett's Aluminum Spring Lock Washer—light in weight with strength of steel.

FLAT WASHERS

Made to meet ASA and SAE specifications in regular steel, spring steel, stainless steel, brass, bronze, monel metal, aluminum, Alclad and copper. Can be plated with zinc, cadmium, nickel, brass, chrome . . . or can be parkerized.

STAMPINGS

From a small part for electronic instruments, automotive stampings and television chassis . . . Garrett can fabricate them better and cheaper than is possible in your own plant. Years of experience and modern highspeed equipment assure speed deliveries . . . finished to your specifications.

SPRINGS

Flat and coiled springs to meet every requirement. Every Garrett spring has controlled tension built into it to assure satisfactory performance under all conditions. All types of flat springs . . . coil springs —compression, extension . . . made of round, square or rectangular wire.

MANUFACTURED BY
GEORGE K. GARRETT CO., INC.
PHILADELPHIA 34, PA.

GARRETT
MANUFACTURERS OF SMALL PARTS

▲ Mention Item NED-2009 when writing ▲

MATERIALS HANDLING EQUIPMENT

tough enough for ANY job!

lightweight, hard, vulcanized fibre

TRUCKS & TOTE BOXES

Built by men who know,—with *extra* protection to continual usage, available in ALL sizes. Note the "ironclad" corners; reinforced rims. Hardwood runners on tote boxes, triple protection on trucks. Send for catalog showing many types, sizes and uses.

USED BY INDUSTRIALS EVERYWHERE! "SINCE 1898"

"BAL" BUILT WITH A CONSCIENCE

WILLIAM BAL CORPORATION
11 Johnson Street, Newark 5, N. J.

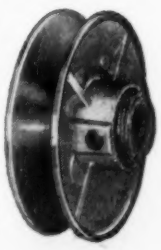
▲ Mention Item NED-2010 when writing ▲

CONGRESS PULLEYS

Big stocks. Immediate delivery of hundreds of standard sizes. Complete engineering facilities for designing and building pulleys for special purposes. Consult our engineers on your Drive requirements.

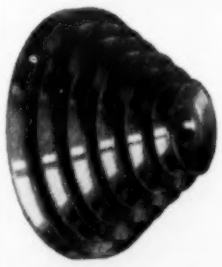
VARIABLE SPEED

Handle speed variations up to 30%. O.D.'s from 3¼" to 4½". Diamond bored and individually tested.



STEP CONE

From 3" 2-step, to 8" 6-step. Full range of bore sizes. Precision built.



FHP and MULTIPLE V-BELTS

All standard sizes carried in stock.

Q-D (Quick Detachable) SHEAVES

Always tight on shaft.

WRITE for CATALOGS

CONGRESS DIAMOND BORED DRIVES
3750 E. OUTER DRIVE, DETROIT 34, MICH.

▲ Mention Item NED-2011 when writing ▲

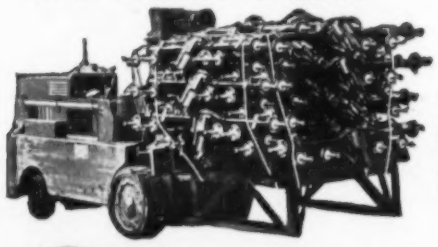
▲ Mention Item NED-2013 when writing ▲

"THE NEW TWIST"
for your strapping operations...
GERRARD!

▶ Gerrard Round Steel Strapping is adaptable to almost every type of tying operation. Between the 18 gauge strapping for protecting parcel post packages and the 8 gauge strap for securing carload lots of steel pipe or machinery, there's a size of Gerrard Strapping that will do your job perfectly.

Because it's *round*, Gerrard Steel Strapping grips where it touches. It is ideal for pallets and has been used successfully to palletize such odd shaped objects as auto springs and rear axles. *And Gerrard Round Steel Strapping costs about 40% less than any other type of metal reinforcement.*

Gerrard engineers will gladly consult with you about your strapping problems free of charge. Send for the *Blue Book of Packaging*. It is free. **Gerrard Steel Strapping Company,** 4717 So. Richmond St., Chicago, Ill.



Gerrard Round Strapping grips where it touches, conforms to the odd shape of the auto axles on the pallet.

USS GERRARD ROUND STEEL STRAPPING
UNITED STATES STEEL

▲ Mention Item NED-2014 when writing ▲

Only HEIN-WERNER HYDRAULIC JACKS have all these features..

★ PLANT MAINTENANCE MEN FIND 1001 USES FOR H-W JACKS

Great for pushing, pulling, pressing, bending, lifting heavy objects. Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity.

Hein-Werner HYDRAULIC JACKS

For details, consult your industrial distributor, or write us.

HEIN-WERNER CORP. WAUKESHA, WIS.

▲ Mention Item NED-2015 when writing ▲

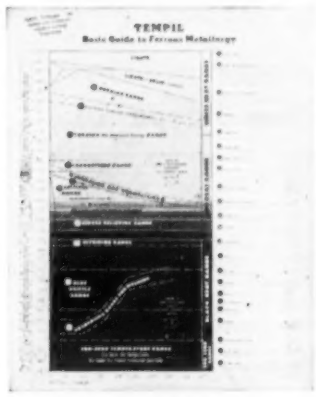
New Processes & Materials

PRESSURE SENSITIVE TAPE has excellent adhesion to backing

Backed with same synthetic resin used on type T synthetic insulated wire, Tuck No. 330 Vinelectric tape affords complete electrical and mechanical protection. It is resistant to oils, acids, alkalies, alcohol and water as well as checking and outdoor aging. Elongation of 200 per cent permits molding to irregular surfaces. It has tensile strength of 20 lb and adhesion of 25 oz per 1-in. width. Dielectric strength is over 7000 v, and backing is 0.006-in. vinyl plastic. Made by **Technical Tape Corp.,** W. 177th St. & Harlem River, New York 53, N. Y.

▲ Mention Item NED-2016 when writing ▲

FERROUS METALLURGY CHART shows working properties of steel



Measuring 16½ x 21 in., this plastic-laminated wall chart entitled "Basic Guide to Ferrous Metallurgy" shows working characteristics of steels in temperature range from −300° F to 2900° F. All important temperature zones including hot-working, annealing, normalizing, stress relieving, carburizing and preheating for welding are clearly defined. Temperature ranges are shown in 19 different colors approximating characteristic hot-body radiant hues. At right of chart, 23 fundamental metallurgical terms are defined and explained. Diagram symbolizing change in grain size with temperature is shown at left. Available from **Tempil Corporation,** Dept. D, 132 W. 22nd St., New York 11, N. Y.

▲ Mention Item NED-2017 when writing ▲

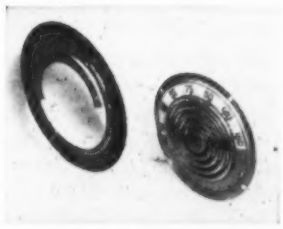
SHEET BUILDING MATERIAL features decorative pattern

Made in sheets ⅛-in. thick, 4 ft wide and up to 8 ft long, De Luxe Flexboard construction material looks like textured cloth but is hard and smooth to the touch. Finish is fused into asbestos and cement base sheet through use of heat and pressure so that there is practically no possibility of peeling or blistering.

Material is alcoholproof; greaseproof; highly resistant to acids, alkalies and standard cleansers; is not marred by burning cigarettes and is shock resistant. It withstands high humidity, hot water, steam, sun and heat. Available in red, blue, green, yellow, tan and peach, material can be applied by adhesives or mechanical fastenings. It can be worked and erected with ordinary tools. Made by **Johns-Manville Corp.,** 22 E. 40th St., New York 16, N. Y.

▲ Mention Item NED-2018 when writing ▲

PAINT SPRAYING MASKS are suitable for complex objects



Electroformed masks facilitate precision spraying of paints and lacquers on complex shapes such as molded, cast or stamped products of metal, plastic, rubber and other materials. Strong shell fits accurately over object, and designated areas are cut out to allow finishing material to pass through. Repeated spraying in these areas can be done without fogging or other defects. Small objects can be finished economically in multicavity panels. Made by **Vertrod Corp.,** Dept. N, 17 Williams Ave., Brooklyn 7, N. Y.

▲ Mention Item NED-2019 when writing ▲

PROTECTIVE COATING & FINISH resists rust and corrosion

Effective rust-inhibiting action and excellent resistance to acids, alkalies, chemical fumes, moisture, salts and alcohols are provided by Kem-Ban maintenance coating and production finish. It is suitable for use on metallic and nonmetallic surfaces. Applied by spray, dip or brush method, material dries in from 20 to 30 minutes to fire-retardant film sufficiently elastic to resist checking, peeling and cracking. Used on wood, linoleum and composition flooring, it imparts resistance to scuffing, abrasion, foot traffic and marring. It is suitable also as sealer for hot plaster, stucco, cement, concrete and other alkaline materials. Having high dielectric strength, it can be used for insulating and exterior surface-finishing of electrical machinery and equipment. Made by **Ace Laboratories,** 1614-16 Coutant Ave., Lakewood 7, O.

▲ Mention Item NED-2020 when writing ▲

For Drastic Savings In Materials Handling Costs

Firms everywhere using the Dempster-Dumpster system report tremendous savings in materials handling costs. One plant saves more than $70,000 annually; another saves $50,000, in scrap and trash handling alone. Quick pick-up, hauling and dumping of detachable containers makes one Dempster-Dumpster truck hoisting unit worth 5 to 10 conventional trucks. One man (the driver) and a truck handle any number of standard or special containers, 3 to 10 cu. yds. . . built to handle any type of material. Illustrations from top to bottom show typical pick-up, hauling, and dumping operations. Write for catalog 247 today.

DEMPSTER BROTHERS, Inc.
430 N. KNOX
KNOXVILLE, TENNESSEE

▲ Mention Item NED-2021 when writing ▲

Defi!

SHOW US A JOB THAT Zagar GEARLESS DRILLHEADS WON'T DRILL!

Unlimited number of spindles! Zagar's gearless principle permits spacing of holes as close as twice drill diameter. Any pattern or arrangement. Any material—steel, glass, plastics, acoustical tile, etc. Zagar drillheads can be mounted on a conventional drill press or built as complete units. Up goes production, down comes cost! We'd like to see your part drawing, please.

Ask for Catalog N-3.

Gas burner—385 holes drilled at one pass on 5/16" centers.

ZAGAR TOOL, Inc., 24000 Lakeland Blvd., Cleveland 23

Booth 1124 ASTE Exposition, April.

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ Mention Item NED-2022 when writing ▲

The Acme Electric Control Transformers are compactly designed. The style illustrated, with end bells and conduit connection is made in ratings 25VA to 250 VA.

115 volt primary to 6 volt secondary
115 volt primary to 24 volt secondary
230 volt primary to 115 volt secondary
460 volt primary to 115 volt secondary
230/460 volt primary to 115 volt secondary
575 volt primary to 115 volt secondary

Other designs are illustrated in Control Catalog Bulletin C176.

ACME ELECTRIC CORPORATION
303 WATER STREET CUBA, N. Y.

Acme ACME Electric

▲ Mention Item NED-2023 when writing ▲

...and you can say that of any vac built with American Phillips Screws

CLEANER PRODUCTION: No scarred parts, no slashed hands, no floors littered by fumbled screws. For when an American Phillips Screw is put on the point of its 4-winged driver ... then they become one straightline unit until the recessed screwhead is turned up flush. Saves rejects, saves screws, *saves time up to 50%.*

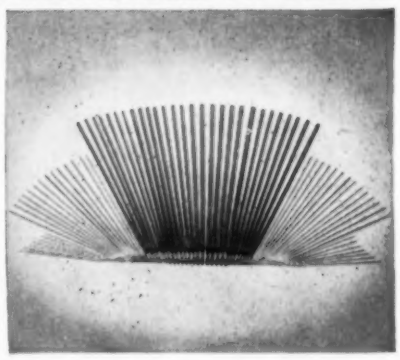
CLEANER SALES: Buyers of top-quality products know the buy-sign of the universal Phillips crossed recess on everything from their automobiles to their golf clubs. *So cash in on this consumer-acceptance!*

AMERICAN SCREW COMPANY, PROVIDENCE 1, R. I.
Chicago, Ill: 589 E. Illinois St. Detroit 2: 502 Stephenson Bldg.

AMERICAN PHILLIPS *Screws*

Mention Item NED-2024 when writing

FACTS AVAILABLE ON SELECT "70"



Descriptive literature covering mild steel, low alloy and special steel, stainless steel, hard surfacing and build-up, and other special electrodes is available on M & T's "SELECT 70"—seventy electrodes designed to cover all arc welding requirements — AC or DC, all-position or downhand work welding of mild steel, low alloys and stainless steels as well as hard surfacing and build-up.

Literature covers specifications, properties and applications for each electrode. Copies available on request received on company letterhead.

METAL & THERMIT CORPORATION
120 Broadway • New York 5, N. Y.
CHICAGO CINCINNATI CLEVELAND HOUSTON MINNEAPOLIS
NEWARK PHILADELPHIA PITTSBURGH SO. SAN FRANCISCO TORONTO

Mention Item NED-2025 when writing

VALET RACKS

Keeps Wraps "in press," dry and aired—will not tip over.

This efficient Office Valet (No. S6) Costumer provides 6 spaced coat hangers, 6 ventilated hat spaces and an umbrella stand on a triangular floor base of 29½" x 16". Other units accommodate 6 or 12 or 24 people.

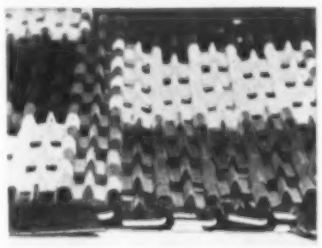
Write for bulletin OV8 showing a complete line of efficient, space-saving steel wardrobe equipment for factories and offices. Everything from small knockdown racks to complete "locker rooms" or checkrooms.

VOGEL - PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

Mention Item NED-2026 when writing

New Processes & Materials

PLASTIC LINK MATTING has corrugated nonslip surface



Available in any width up to 5 ft and in any desired length, Evertred matting is formed of vinyl plastic links woven on rust-resisting spring steel wire network. One side of each link is slightly corrugated to afford nonslip surface even when mat is used in shower rooms, and additional safety is provided by nontrip beveled nosing. Other side of links is ridged to facilitate dirt removal. Mat will not absorb soil, does not discolor with use or age, and is grease-proof so that it can be used where oily conditions are prevalent. It is available with links in green, red, brown, white and black and in decorative patterns upon request. Made by **American Mat Corp.**, 1733 Adams St., Toledo 2, O.

Mention Item NED-2027 when writing

PROTECTIVE PLASTIC FINISH is durable and attractive

Recommended for institutional, industrial and marine applications, phenolic plastic finish coating can be used for both interior and exterior service. It is highly impervious to acids, alkalies, heat or cold, paint remover, solvents, fire and alcohol. Easily brushed or sprayed to mirror-like finish, it is durable and elastic and will maintain its high gloss after hundreds of washings with strong cleaning solutions. Finish is available clear or in colors, dries overnight and covers 600 sq ft per gallon. Made by **Pioneer Chemical & Mfg. Co.**, 1857 Columbus Rd., Cleveland 13, O.

Mention Item NED-2028 when writing

SINTERED METAL BEARING contains cavity in wall which is filled with oil or grease

Cavity of uniform size formed in center of Haller Oil Well bearing wall is filled with oil or grease as it is impregnated into sintered metal by static pressure. Since this pocket as well as pores in sintered metal body contains lubricant, bearing can take heavy loads. Because oil is sealed in body of bearing, there is no dripping. It can be hardened and ground and impregnated with oil or grease to suit different conditions.

Bearing is available in three styles. Pocket type which has open cavity is particularly suited for heavy load bearings. Sponge type bearing pocket is filled with sponge iron to provide capillary action for retaining oil and is recommended for conditions where it is subjected to heat. In thin wall bearings, group of small holes replaces pocket so that structure of bearing wall is not weakened. Made by **Michigan Powdered Metal Products Co.**, Northville, Mich.

Mention Item NED-2029 when writing

SILICONE DIELECTRIC forms waterproof seal

Chemically stable, waterproof, dielectric sealing compound for aircraft ignition systems and electronic equipment is provided by G-E 81083 silicone mixture. As a dielectric, it is used also to waterproof exposed surfaces on plastics and ceramic insulators. Material is substantially unchanged by temperatures from −70 to 450° F, will wet and adhere to both metallic and nonmetallic surfaces, and is noncorrosive and relatively inert chemically. It has good resistance to steam, hot water and hot air. Resembling medium heavy transulucent grease, compound is obtainable in 8-oz tubes and 1, 5 and 30-gal containers. Made by **General Electric Co.**, Plastics Dept., 1 Plastics Ave., Pittsfield, Mass.

Mention Item NED-2030 when writing

CENTRIFUGAL CASTINGS parts produced in all metals

Liners, rings, rolls, sleeves, bushings and other parts requiring extremely dense and compact structure are available as custom centrifugal castings. Castings are supplied in all metals and are blanked to customers' specifications. Service offered by **American Non-Gran Bronze Co.**, 200 Lancaster Ave., Berwyn 20, Pa.

Mention Item NED-2031 when writing

New POCKET COMPARATOR saves you time and money inspecting small parts...

HERE'S WHAT IT IS

The Pocket Comparator is a precision optical measuring instrument for the inspection of small parts. Measurements are accomplished through a combination of a high-precision 6-power magnifying lens and an engraved pattern or reticle. The reticle is calibrated for measuring lengths, widths, circles, radii and angles.

HERE'S WHAT IT DOES

Tool Room and Production Use:

Checks forms and dimensions of punches, dies, gauges, cutting tools.

Checks sizes and forms of templates, layouts, cutting edges, etc.

Checks radii, angles, chamfers, threads, small holes, lineal, radial and tangent dimensions.

General Use:

For metallurgists and chemists — general laboratory work.

For textile and paper industries—for checking grades and flaws.

For die-casting and plastic molding—general inspection.

For instrument makers, jewelers, etc., for checking size, grade, form, flaws, etc.

a product of BELL & HOWELL CO. *distributed by*

Write for FREE descriptive folder

NATIONAL TOOL CO.
11210 Madison Avenue Cleveland 2, Ohio

Mention Item NED-2032 when writing

"COMMERCIAL"

Hydraulic Power Products
Pumps and Motors
Pump Capacities — 1 to 75 G.P.M.
Motor Capacities — 1 to 20 H.P.
Valves — Unit — Tandem or Special
Single or Double Acting
Cylinders — Telescopic or Single Sleeve Types
Various Lifting Capacities to 50 Tons
We design and build for special applications.
Tell us what you need — Literature available.

THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

Mention Item NED-2033 when writing

CONVOY TOTE BOXES
Increase Payload . . . Reduce Cost

LIGHTWEIGHT—2 cu. ft. Convoy Stacking Tote Box weighs only 8½ lbs.

CHEMICALLY HARDENED CORRUGATED BOARD
Many Convoy Tote Boxes have been in active daily use for more than two years — exclusive chemical impregnation process binds and hardens corrugated board.

NO MAINTENANCE—Convoy Tote Boxes are so inexpensive that they can be discarded when they finally become unserviceable.

Over 100 Stock Sizes Available Now
. . . Write for sizes and prices

CONVOY, INC. Dept. N CANTON 7, OHIO

Mention Item NED-2034 when writing

what shape's it in?

Pulls and handles, guides and rails, strips and slides, edgings and moldings — from decorative trim to mechanical parts, no matter what shape it's in we make it — for shapes are our business. In our modern plant we make aluminum extruded shapes — fabricated, anodized, given a silvery satin or gleaming polish finish*, and delivered *ready for assembly* in our customers' products in many fields. Think about it *now:* How can we help *you* make better products cheaper by using LMC fabricated aluminum extrusions? Write today for recommendations and cost estimates. Just send us a blueprint or sketch — we'll do the rest. There's no obligation!

cut tooling costs

When they're LMC aluminum extrusions there's no need to let tooling costs freeze your designs. You'll be pleased, and perhaps amazed, to learn how inexpensive our die work is.

shapes that work

*Alumilite licensee — clear and color anodizing — chemical brightening.

LIGHT METALS corporation
GRAND RAPIDS, MICHIGAN

Mention Item NED-2035 when writing

Here's why TRU-LAY PUSH-PULL is a valuable aid in machine design

TRU-LAY Push-Pull is precision-made. Therefore it . . .

. . . is positive in action as a steel rod, yet flexible as wire rope

. . . transmits action over long or short lengths, with few or many bends

. . . will operate while flexing, with practically no lost motion

. . . is made in capacities up to 1000 pounds input

. . . is designed for long life—a machine part—not a flimsy gadget

MAIL THE COUPON BELOW

(to our Detroit Office) for bulletin of information about TRU-LAY Push-Pull.

6-235 General Motors Bldg., Detroit 2
1119 Santa Fe Avenue, Los Angeles 21
Bridgeport, Conn.

ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

Please send me copy of descriptive bulletin DH-87-D-1.

Name_____
Company Name_____
Address_____
City_____ Zone____ State_____

Mention Item NED-2036 when writing

New Processes & Materials

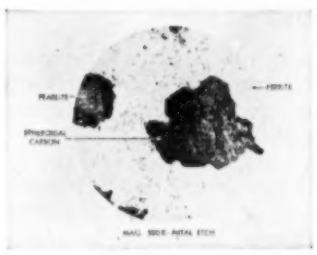
PROTECTIVE PLASTIC COATING guards metal in severe conditions

Formulated of vinyl resin, protective coating is recommended for service over operating range of −40° to 160° F, either wet or dry. It is resistant to alkalies and mineral acids; is insoluble in alcohols, greases, oils and aliphatic hydrocarbons; and has low permeability to water vapor and low water absorption. It is therefore particularly effective in applications where metal is subject to deterioration from chemical or moisture attack. Since it is nonflammable and imparts neither taste, odor nor toxicity, it can be used on surfaces which come in contact with foods, beverages and pharmaceuticals.

Material develops excellent adhesion to relatively smooth surfaces without heat curing and air-dries rapidly. It is available in clear, black or gray high-gloss finish and can be applied by brush or spray. Made by **Dampney Company of America,** 1244 River St., Hyde Park, Boston 36, Mass.

Mention Item NED-2037 when writing

ALLOY CASTINGS have high degree of ductility



Possessing high yield strength, substantial ductility and high elastic modulus, Ductile Cecolloy castings have been produced in units weighing up to 40,000 lb. Basically material is high-carbon cast iron treated with magnesium to transform graphite from normal flake to spheroidal form in order to retain self-lubricating properties and much of vibration-dampening characteristics of cast iron. Metallic matrix is essentially steel which can be produced with appropriate micro-structures to give desired physical properties and to allow heat treatment for alteration of mechanical properties.

Alloy castings can be produced with specifications as follows: tensile strength 60,000 to 80,000 psi, yield strength 40,000 to 60,000 psi, elongation 0 to 15 per cent, and modulus of elasticity ranging from 22,000,000 to 25,000,000 psi. Made by **Chambersburg Engineering Co.,** Chambersburg, Pa.

Mention Item NED-2038 when writing

SOLDERING ALLOYS suitable for silver printed circuits

Recommended for attaching wire leads and tubes to silver printed circuits and ceramic capacitors, Divco No. 233 soldering alloy is designed for applications where temperature does not exceed 350° F, while No. 276 can be used where assemblies operate at higher temperatures. Both are used in same manner as conventional solders employed in radio and electrical assembly. They are obtainable as bar, solid wire and rosin core shapes and work equally well on ceramic, plastic, Bakelite and other base materials which have been coated with silver either by painting, spraying, dusting or plating. Made by **Division Lead Co.,** Dept. P-12, 836 W. Kinzie St., Chicago 22, Ill.

Mention Item NED-2039 when writing

MOLD RELEASE EMULSION is of stable silicone material

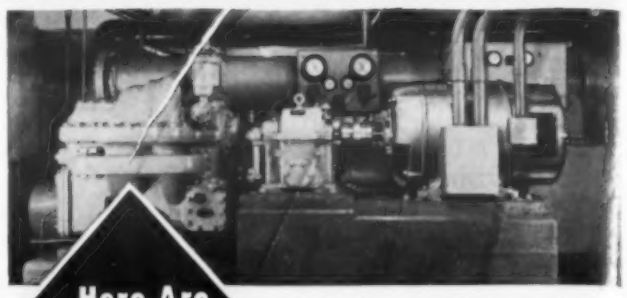
Usable on molds for rubber tires and heels, rubber and vinyl floor tiling and plastics, silicone mold release emulsion G-E 81161 is diluted and applied with spray gun or atomizer. It prevents molded part from sticking and will resist temperatures as high as 250° C. Unaffected by hard water, freezing, mechanical agitation and centrifuging, emulsion does not decompose to produce gases, tarry residue or build-up. Made by **General Electric Co.,** Plastics Dept., 1 Plastics Ave., Pittsfield, Mass.

Mention Item NED-2040 when writing

PROTECTIVE METAL COATING is heat and weather resistant

Designed for weather-exposed service at temperatures to 750° F, Silicone Coating Aluminum combines high inertness and heat stability with high water repellency and low moisture absorption. It is suitable for use in industrially contaminated atmospheres and where exposure to chemical fumes is likely. Applications include coating equipment such as stacks, furnaces, boilers, heaters, ovens, steam lines, gas burners and mufflers. It can be applied by brush or spray to any properly prepared iron, steel, galvanized or other metal surface. Coverage is approximately 1000 sq ft per gal, and drying time varies from ½ to 3 hours. Made by **Dampney Company of America,** 1244 River St., Hyde Park, Boston 36, Mass.

Mention Item NED-2041 when writing



Two 125 horsepower Century wound rotor motors driving high speed turbine compressors.

Here Are 4 WAYS to Take Advantage of the FLEXIBLE POWER of Century WOUND ROTOR MOTORS

Meet Load Charactistics for:

1 Adjustable varying speeds control variable process and other load conditions.
2 Reversing direction of operation of heavy loads—as in lift bridges.
3 Syncro-speed, multiple drives used where two or more operations must be coordinated.
4 High starting torque with low starting current—such as reciprocating compressors, steel plate bending rolls, etc.

Century wound rotor motors are built in sizes up to 400 horsepower and are available in open protected and splash proof frames. In addition, Century builds a complete line of AC and DC motors in sizes from ⅙ to 400 horsepower for all popular requirements.

Specify Century motors for all your electric power needs.

CENTURY ELECTRIC CO. 1806 Pine St., St. Louis 3, Mo.
Offices and Stock Points in Principal Cities

Mention Item NED-2042 when writing

NOW! REDUCE MATERIAL COST
BUT GET PERFECT STAINLESS PROTECTION

with PERMACLAD
STAINLESS CLAD STEEL

PERMACLAD combines the surface characteristics of stainless steel with the forming qualities of carbon steel. It permits you to improve your products, provide corrosion resistance and cut forming costs. You can cold form PERMACLAD with ease—subject it to deeper draws without intermediate annealing—actually form it into products impossible with many other materials.

Hundreds of products from chemical and food processing equipment to automotive bumpers and show cases are being fabricated from PERMACLAD. Write for more information and FREE 8-page technical data folder P-5.

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Mention Item NED-2043 when writing

NEAT, TIGHT HOSE JOINTS IN SECONDS WITH 2 NEW TOOLS

FOR PRODUCTION

Fastest machine known for contracting hose ferrules. Air-powered; foot control. Does thousands of connections per day *effortlessly.* Full range of die sizes available. Write for complete catalog data sheet.

FOR MAINTENANCE

Works on new principle. Delivers terrific pressure with easy squeeze. Adjustable quickly for various sizes of ferrules. So inexpensive every maintenance man can carry one. 9½" long. Weighs only 10 oz. Write for complete catalog data sheet.

For best results use Schrader Hose Ferrules and Hose Couplings.

Schrader PRODUCTS CONTROL THE AIR
A. SCHRADER'S SON
478 Vanderbilt Avenue
Brooklyn 17, New York, Dept. ND-2
Division of Scovill Manufacturing Company, Incorporated

Mention Item NED-2044 when writing

The handy Alnor Pyrocon is unequaled for quick, accurate reading of surface temperatures of molds, steam traps, bearings, plastics, revolving rolls, and other materials. It's a well-balanced, handy instrument that will stand heavy use, yet perform with laboratory precision. A wide selection of thermocouples and extension arms permits adaptation to many types of service. For complete details and prices, send for Bulletin No. 4257. Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ Mention Item NED-2045 when writing ▲

THE FLORLINE MARKING MACHINE

Makes Safety & Parking Lines At Walking Speed!

Often pays for itself on the first job! 1 man alone can do the floor marking in 1 day that previously took an entire crew.

- Makes curved, straight, continuous or skip lines . . . 2, 3, or 4 inches wide.
- Holds 1½ gals. paint, lacquer, whitewash . . . cannot spill.
- No motor, compressor or attachments.
- One man, one hand operation.
- Portable, efficient, speedy.
- Operates on gravity feed.
- Easy to clean and store.

$89.50 F.O.B. Detroit

Fully Guaranteed.

H. C. SWEET CO.

12083 Woodbine Ave. Dept. CH-1 Detroit 28, Michigan

▲ Mention Item NED-2046 when writing ▲

CHAMPION INSTANT START FLUORESCENT LAMPS

Here's why:

1. **Instantaneous operation.** No waiting for "warm up"
2. **Color choice.** Champions come in all standard "whites".
3. **Size selection.** Champions come in five convenient lengths up to eight feet.
4. **Slimline.** Small — streamlined — fits restricted locations.
5. **Simplified wiring.** No starters, fewer sockets, simpler fixtures and less trouble.
6. **Lower maintenance cost!** Easier to maintain as well as to install.
7. **Choice of lamp brightness** and illumination levels through wide range of lamps and auxiliaries.
8. **NEW long service.** *NOW,* 4000 hours of life on 3-hour or longer burning cycles.

ASK YOUR SUPPLIER FOR CHAMPION *Instant Start* LAMPS. Write us for complimentary copy of the new, revised Champion Maintenance Manual, "S" packed full of up-to-date information on how you can make the most of your lighting.

CHAMPION LAMP WORKS
Lynn, Massachusetts
A DIVISION OF CONSOLIDATED ELECTRIC LAMP CO.

▲ Mention Item NED-2047 when writing ▲

FOOT PUNCH PRESS
has 4-ft throat depth

Operated by pedal through powerful lever and toggle linkage that multiplies foot pressure many times, this Jensen foot press has capacity of 2-in. hole through 16-gage mild steel or equivalent. It is being used for punching holes along edges of standard 4-ft sheets of hard compressed composition board. With this press, one man can slide sheet into throat of machine and thus work along near edge while in position to see locating marks and to work foot pedal easily. Accessories such as work tables, guides, gages, punch holders and die shoes can be obtained. Made by **Whitney Metal Tool Co.,** 400 Forbes St., Rockford, Ill.

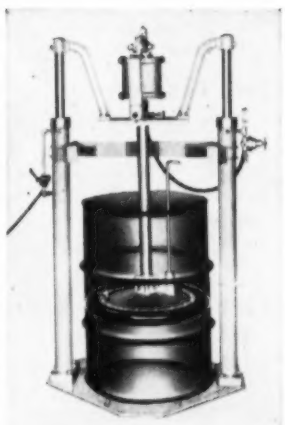
▲ Mention Item NED-2048 when writing ▲

LIGHTWEIGHT STEPLADDER
is constructed of aluminum alloy

This fully riveted aluminum stepladder is available in standard sizes of 4, 6, 8, 10, and 12 ft. Pail shelf is included on all models except smallest. Heavy ridges in steps afford non-skid footing, thick fiber insulating blocks are on all floor contact points, and hardware is heavy gage cadmium steel for adequate strength at stress points. Ladders are intended for heavy service where lightweight equipment which can be handled by one man is essential. Made by **Louisville Metal Products Co.,** Dept. NED, 1101 W. Oak St., Louisville, Ky.

▲ Mention Item NED-2049 when writing ▲

BARRELED-PRODUCT FEEDER
suited for use with materials pump

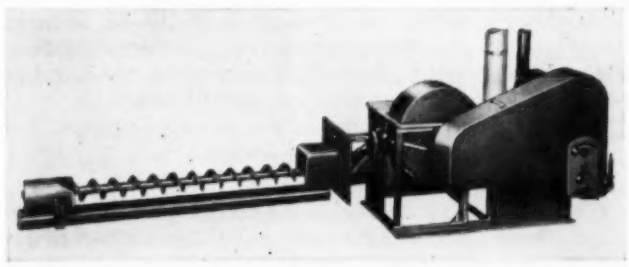


Intended to handle materials that will not seek their own level, power-operated hoist and follower plate unit exerts more than 6700-psi pressure on material in container to assure positive prime and elimination of air pockets. Tubeless synthetic tire wiper cleans side of barrel or drum, and by its priming action, prevents skinning and eliminates contamination. It can be used for application of lubricants, greases, caulking and sealing compounds, adhesives, mastics and spray emulsions. Controls raise or lower elevator under pressure, and built-in air bleeder and suction release simplify withdrawal of plate from drum. Made by **Stewart-Warner Corp.,** Alemite Div., Dept. NED-615, 1826 Diversey Parkway, Chicago 14, Ill.

▲ Mention Item NED-2050 when writing ▲

AUTOMATIC STOKER
feeds direct from main coal bunker

Improved series 400 Pneumatic Spreader stoker conveys steam size coal by means of metering worm from main bunker to transfer housing where coal is picked up by



stream of air, combined with furnace gases, and carried to furnace and grates. Features in this stoker include hot gas coal drier and preheater, bunker feed units in capacities up to 4000 lb per hour per nozzle, infinitely variable speed transmission synchronized with air volumeter to provide air-fuel ratio control, larger conveyor worm and two-stage conveyor fan that permits greater capacity per nozzle. Models can be obtained with capacities of 1600, 2000, 3000 and 4000 lb per hr. Made by **Iron Fireman Mfg. Co.,** 3258 W. 106th St., Cleveland 11, O.

▲ Mention Item NED-2051 when writing ▲

When Modern, Faster-Drying Sani-Dri Eliminates Need for Towels!

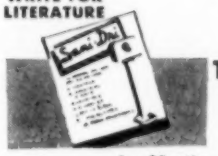
GIVES YOU CLEANER, MORE SANITARY WASHROOMS

No longer do you need to have unsanitary waste litter in your washrooms. New, faster-drying Sani-Dri gives you 24-hour hand or face-drying service with a stream of hot air. New heating element and faster-flow nozzle drys hands or face 25% faster than ever before! Sani-Driers have carried the Underwriter's Seal of Approval for 18 years. They have given efficient drying service in every civilized country in every climatic condition!

SAVES 85% OF WASHROOM COSTS

Sani-Dri pays for itself out of savings! No buying or stocking of towels. No unsanitary litter . . no fire hazard no paper-clogged soil pipes no servicing of empty towel cabinets. Sani-Dri gives years of continuous automatic drying service!

WRITE FOR LITERATURE



Distributors in Principal Cities

THE CHICAGO HARDWARE FOUNDRY CO.
"Dependable Since 1897"
1930 Commonwealth Ave.
NORTH CHICAGO, ILLINOIS

▲ Mention Item NED-2052 when writing ▲

Wood's "SURE-GRIP" INTERCHANGEABLE HUB

Wood's "Sure-Grip" Interchangeable Hub with the "cut" from end-to-end, locks securely with a uniform, full-length grip on the shaft. And because it's easier and faster to mount (simply slide it on, line it up, and tighten), it is a time- and money-saver. To remove, loosen the three bolts and slip it off . . . Wood's engineers will assist you in the selection of a complete drive to fit your requirements.

IN STOCK for immediate delivery . . . a complete range of sizes in A, B, C and D section grooves. Write for detailed information.

T. B. WOOD'S SONS CO.
CHAMBERSBURG, PA.

▲ Mention Item NED-2053 when writing ▲

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO ALUMINUM SPEED SCALE

For increased production at lower cost! One operator with one Speed Scale does as much as two operators with ordinary scales. Sturdy, precision built, super-accurate. Ends overweight losses.

Write for Literature.

DETECTO · SCALES · INC.
MAKERS OF FINE SCALES SINCE 1900
543 N. PARK AVENUE • BROOKLYN 5, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

▲ Mention Item NED-2054 when writing ▲

Material Handling — At the Machine

Proper "Positioning" saves unnecessary handling

Illustration of positioning sheets at a shear.

"Position" with a

LYON-Raymond

Hydraulic Elevating Sheet Feeding Table

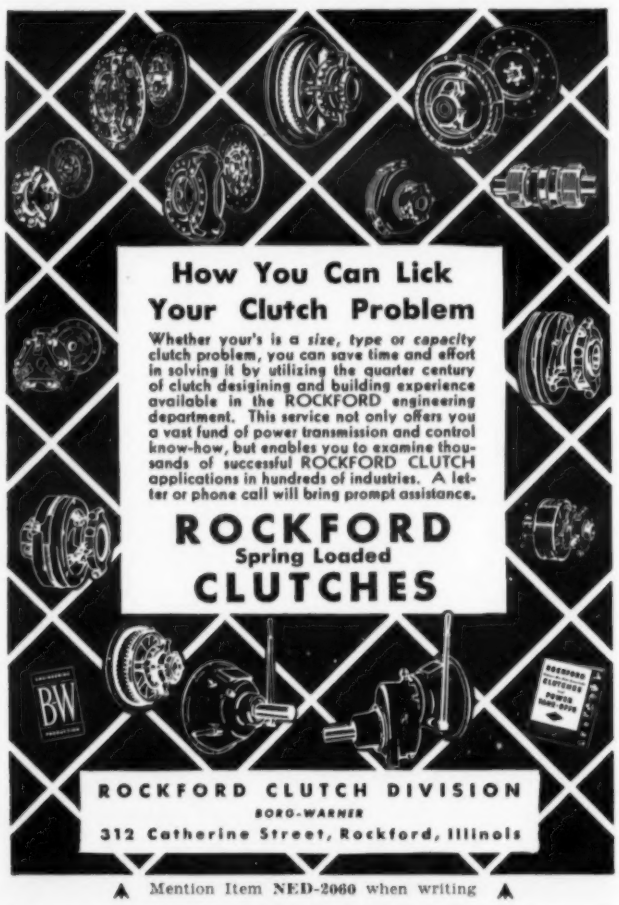
- Increases feeding speed — • Lessens spoilage
- Reduces fatigue—eliminates tiresome, awkward positions
- Insures safety—does away with much manual lifting from unsafe positions

For more particulars on sheet or strip feeding, write for Bulletin 261. Also ask for booklet—"Material Handling—At the Machine." This booklet contains many other illustrations of "positioning" of other products.

LYON-Raymond CORPORATION
Electric Power Trucks . . . Skid and Pallet Lifts
Hydraulic Elevating Equipment
Positioning . . . Sheet and Die Handling

4125 Madison St. GREENE, N.Y.

▲ Mention Item NED-2059 when writing ▲

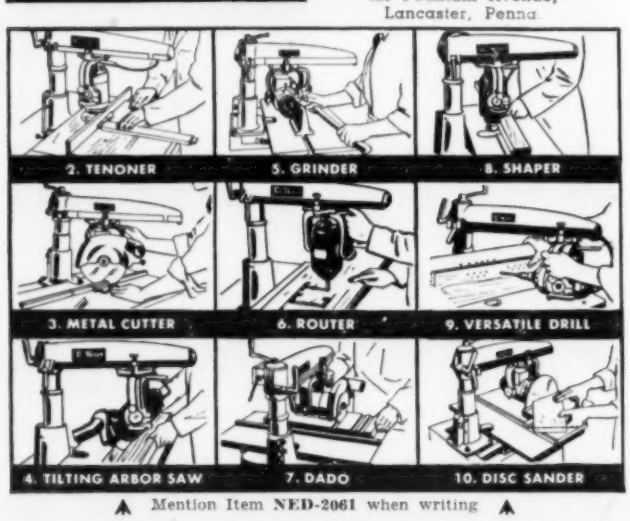


▲ Mention Item NED-2060 when writing ▲

10 POWER MACHINES IN ONE!

That's what you have (and more) when you own a flexible, all-purpose DeWalt. It's fast, accurate, safe—built for continuous service. Write for catalog.

DE WALT INC.
123 Fountain Avenue, Lancaster, Penna.



▲ Mention Item NED-2061 when writing ▲

New Literature and Catalogs

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Coating & Adhesive Resins

Bakelite Corp.—22-page technical release No. 11 contains information to aid in use of Vinylite vinyl butyral resins in preparation of coatings and adhesives. Discussed in detail is development of wash primer type of metal conditioner which not only protects metal from corrosion but also promotes adhesion of subsequent coatings.

▲ Mention Item NED-2062 when writing ▲

Ball-Bearing Swivel Joints

Chiksan Co.—More than 500 types and sizes of ball-bearing swivel joints are shown and described in catalog No. 50. Also covered are hose, circulating heads, mud guns, unions, blocks, thread compounds, low pressure gas burners and warehouse stoves.

▲ Mention Item NED-2063 when writing ▲

Oil-Hydraulic Cylinders

Vickers Inc.—28-page illustrated bulletin No. 49-55 presents complete data on line of oil-hydraulic cylinders which are available for foot, flange, trunnion, centerline, reverse flange or clevis mounting. Head end, rod end or both can be cushioned; and various mountings can be combined for mounting auxiliary equipment or for additional support.

▲ Mention Item NED-2064 when writing ▲

Electric Heating Mantles

Glas-Col Apparatus Co.—Practical information to aid in solving laboratory and pilot plant heating problems is presented in 48-page illustrated heating mantle bulletin No. 4. Details of construction and operation of three basic types of Glas-Col electric heating mantles are outlined.

▲ Mention Item NED-2065 when writing ▲

Vapor Cleaners

Swartwout Co.—Specifications and selection data on helico-centrifugal separators for removing unwanted elements from steam, air and other vapors are given in 12-page illustrated bulletin No. S-14-C. Units are obtainable for maximum working pressures from 50 to 600 psi.

▲ Mention Item NED-2066 when writing ▲

Ball Bearings

Nice Ball Bearing Co.—Complete line of ball bearings is described and new composition sealed bearing design introduced in illustrated catalog No. 140. Other antifriction products such as ball-bearing sheaves, rollers, wheels and casters are outlined also.

▲ Mention Item NED-2067 when writing ▲

Vertical Speed Reducers

Cleveland Worm & Gear Co.—Types NU and ND vertical shaft worm gear speed reducers which are particularly suitable for driving equipment such as agitators and mixers are covered in 8-page illustrated publication No. 125. Reducers are available in seven sizes in each type.

▲ Mention Item NED-2068 when writing ▲

Cutting Oil & Lubricant Additives

Burns Laboratories, Inc.—14-page pamphlet "Sulphur & Chemical Additives" presents data on chemical products to be used as base for preparation of industrial lubricants particularly cutting oils, soluble oil, drawing and stamping compounds, etc.

▲ Mention Item NED-2069 when writing ▲

Spring Plating

Reliable Spring & Wire Forms Co.—Bulletin "Selecting Protective Finishes for Springs" gives useful technical data on various spring platings, their properties, purposes and costs. Relative degrees of resistance to corrosion, abrasion and other deterioration are discussed.

▲ Mention Item NED-2070 when writing ▲

Asphalt Mastic Flooring

Ralph V. Rulon, Inc.—Acid-resisting, waterproof, slip-proof and long wearing qualities of Rulon asphalt mastic floors for every industrial need are outlined in 8-page illustrated circular "Rulon Industrial Floorings & Acidproof Construction."

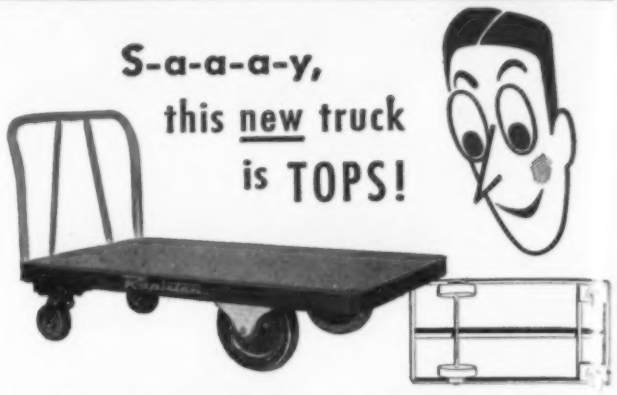
▲ Mention Item NED-2071 when writing ▲

Nickel Alloys & Products

International Nickel Co.—Available publications on nickel alloy steels, stainless steels, nickel cast irons, nickel brasses and bronzes, and nickel plating are briefly described in 12-page list A. Circulars are classified according to industrial field to which they are applicable.

▲ Mention Item NED-2072 when writing ▲

S-a-a-a-y, this new truck is TOPS!



New, one-piece, arc-welded construction reinforced full length of both steel and wood decks. No bolt heads on steel deck! Rounded corner pockets, inset-welded. Handles at one or both ends. Level or tilt-type models. Choice of wheels. Capacity 650 to 6,000 lbs. Baked enamel finish. Wood deck also available. Priced right. *Write for literature!*

"Rapistan", "Material Flow" — T.M.

The RAPIDS-STANDARD COMPANY, Inc.
294 Rapistan Building
Grand Rapids, Michigan

Representatives in Principal Cities

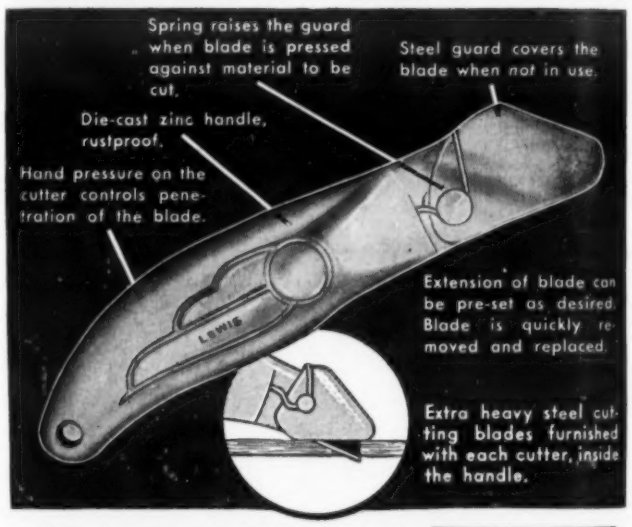
Rapistan MATERIAL flow EQUIPMENT

CONVEYORS: Power or Gravity, Portable or Stationary.
CASTERS • FLOOR TRUCKS • HAND TRUCKS

▲ Mention Item NED-2073 when writing ▲

A New Invention . . . Safe . . . Different

LEWIS Automatic SAFETY CUTTER



Here is a new patented knife that cuts swiftly, surely, safely . . . yet protects the user from injury. Always safe because the blade is guarded — always ready to use because there's nothing to adjust.

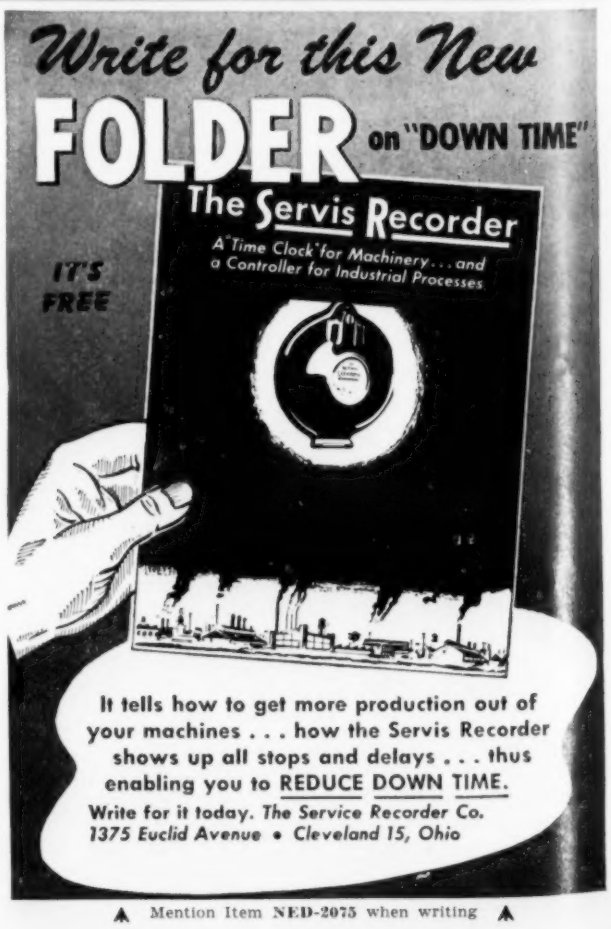
Retail Price **$1.50**

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

▲ Mention Item NED-2074 when writing ▲

Write for this New

FOLDER on "DOWN TIME"



It tells how to get more production out of your machines . . . how the Servis Recorder shows up all stops and delays . . . thus enabling you to REDUCE DOWN TIME.

Write for it today. *The Service Recorder Co.*
1375 Euclid Avenue • Cleveland 15, Ohio

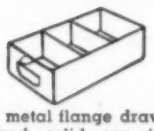
▲ Mention Item NED-2075 when writing ▲

STURDY, CONVENIENT, LOW-COST
JIFFY ALL METAL CABINETS

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS
$8.95
POSTAGE PAID
64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS
$15.95

Rustproof Aluminum Drawers



Complete set of Dividers and Index Cards supplied.

APPROXIMATE SIZES
DRAWER 1¼" Deep 2¾" Wide 6" Long
32 DRAWER UNIT 6" Deep 12¾" Wide 15¼" High
64 DRAWER UNIT 6" Deep 25½" Wide 15¼" High

Spot welded steel cabinet, metal flange drawer guides, enamel finish and solid one-piece aluminum drawers in natural satin finish. The first multiple drawer metal cabinet for convenient storage of small parts, drills, tools, carbide tips, mounted points or assembly bench work at such a low cost. Order now for immediate delivery. Send check or money order or rated companies shipped on receipt of purchase order.

KAYTEE PRODUCTS
DEPT. P BOX 588 - CANTON, OHIO

Mention Item NED-2076 when writing

New di-acro POWERSHEAR

OFFERS
CONTINUOUS ACTION
plus
VARIABLE SPEED
From 30 to 200 strokes per minute

for high speed
DIE-LESS DUPLICATING

The new Di-Acro POWERSHEAR has remarkable speed and accuracy for the production of small parts and pieces. Consider these points: 1. CONTINUOUS SHEARING ACTION — no clutch to engage! Feeding speed determines shearing speed. 2. VARIABLE SPEED — cutting cycle quickly set for each shearing operation. 3. EASE OF OPERATION — fatigue is reduced, accuracy increases, production soars. 4. "SINGLE STROKE" SHEARING — non-repeating safety clutch for jobs not adaptable to continuous shearing.

Any plant doing high speed precision work on smaller parts from any shearable material cannot afford to be without the DI-ACRO POWERSHEAR. Available in 12" and 24" shearing widths, capacity 16 gauge sheet steel. Also standard model.

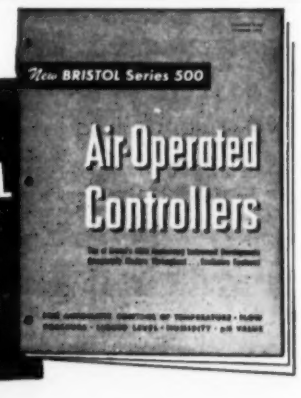
See Di-Acro Exhibit Booth 316 — Tool Engineers' Industrial Exposition, Philadelphia, Pa., April 10-14.

Send for 40 page "DIE-LESS DUPLICATING" catalog.

O'NEIL-IRWIN MFG. CO.
354 8th Avenue, LAKE CITY, MINN.

Mention Item NED-2077 when writing

Do you use AUTOMATIC CONTROL INSTRUMENTS on the processes in your plant?



If you do or plan to, you should know about Bristol Series 500 Air-Operated Controllers for temperature, pressure, flow, liquid level, humidity and pH value.

Their many exclusive features will enable you to get better control results.

They are the product of over 60 years of experience in building and applying hundreds of thousands of recording and controlling instruments.

Write for our new Bulletin A120, giving complete information. THE BRISTOL COMPANY, 112 Bristol Road, Waterbury 20, Conn.

BRISTOL
Automatic Controlling, Recording and Telemetering Instruments

Mention Item NED-2078 when writing

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Electric Brakes & Clutches

Warner Electric Brake Mfg. Co.—24-page illustrated bulletin No. 701 is combination engineering catalog and reference book on ICB clutch and brake units for industrial machinery and electric motors. Data are given to aid in computing clutch and brake torques, heat dissipation and size.

Mention Item NED-2079 when writing

Stone Industry

Norton Co.—"Products for the Stone Industry" is title of 68-page illustrated handbook which describes latest methods of cutting, grinding, polishing, buffing and pressure-blasting stone. Data are given on abrasive products and their applications in granite, marble, limestone, sandstone, soapstone and slate fields.

Mention Item NED-2080 when writing

Heating & Air Conditioning

Trane Co.—44-page illustrated bulletin DS-258 deals with integrated line of railroad heating and air conditioning equipment. It introduces Trane Railway Custom-Air unit which controls humidity and temperature, new combination condenser and nonferrous finned radiation with steam distributing tube.

Mention Item NED-2081 when writing

Laboratory Crushers

American Pulverizer Co.—"For Better Testing and Small Scale Reduction" is title of 6-page illustrated bulletin which deals with practical applications of laboratory crushers, grinders and shredders for reduction of coal, by-products, chemicals, clays and many other products.

Mention Item NED-2082 when writing

Insulators & Pole Hardware

Locke Inc.—Pole line hardware, power insulators and suspension hardware to handle 95 per cent of all installations are listed and described in 99-page illustrated "RM Handylog."

Mention Item NED-2083 when writing

Industrial Brushes

M. W. Jenkins' Sons, Inc.—Guidance for applying, arranging and removing with brushes as well as selection of industrial brushes is presented in 8-page illustrated bulletin No. 10. Construction features including cores, bristles and sizes are included.

Mention Item NED-2084 when writing

Quick-Opening Valves

Everlasting Valve Co.—Quick-operating valves for general services is subject of 16-page illustrated bulletin E-160. Dimensions, weights and list prices are given for wide range of sizes, styles and constructions for pressures up to 250 psi.

Mention Item NED-2085 when writing

Air-Actuated Arbor Press

Hannifin Corp.—Design details, dimensions and capacities of air-operated arbor presses are presented in 4-page illustrated bulletin 250. Developed for assembly, forming, bending, riveting, marking, straightening and similar operations, presses are available in capacities from 1 to 18 tons.

Mention Item NED-2086 when writing

Stress Analysis

Baldwin Locomotive Works—12-page illustrated bulletin 279-A tells how to select and use SR-4 bonded resistance wire strain gages in stress analysis. It explains fundamentals of both simple and practical strain gage circuits and instruments.

Mention Item NED-2087 when writing

Portable Lighting & Tool Lines

Joy Mfg. Co., Mines Equipment Div.—12-page illustrated bulletin on String-a-lite lines for portable light and power transmission describes and gives prices of dirtproof, moistureproof and oilproof outlets and fittings.

Mention Item NED-2088 when writing

Press Room Equipment

U. S. Tool Co.—16-page illustrated catalog No. 70 describes slide feeds, roll feeds, stock straighteners, stock reels, coil cradles and stock oilers and wipers. Complete specifications on these automatic machines for press room use are listed.

Mention Item NED-2089 when writing

Machine & Tool Accessories

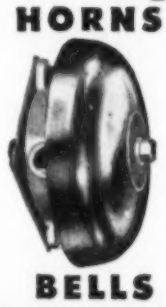
George F. Bub & Son—16-page illustrated catalog 50 lists dimensions and prices of hand knobs, handles, handwheels, jig and fixture components and master shank holders in complete line of machine and tool accessories.

Mention Item NED-2090 when writing

FEDERAL

SIRENS

HORNS



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For all industrial applications; shops, yards, warehouses and structures.

Heavy-duty, precision-built, weather-proof signals for warning, alarm, paging, come-on and other signalling purposes.

Get in touch with Federal for reliable signalling equipment. Federal, the oldest and largest signal manufacturer, builds precision signals for longer life in heavy duty use.

Write for Industrial Signal Catalogue

FEDERAL ENTERPRISES, INC.
formerly FEDERAL ELECTRIC COMPANY, INC.
8711 South State Street Chicago 19, Illinois

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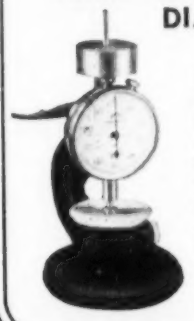
AMES FEATHER-LIGHT POCKET-SIZE THICKNESS MEASURES

For instant, accurate checking, *anywhere*, of *anything* from filaments to tile, Ames feather-light pocket-size dial micrometers are perfect. With exclusive features — automatic, uniform contact pressure, fixed parallel contacts, direct reading count hands — everyone gets the same rapid, precise reading. Models with dial graduations in .0005", .001", .01 mm or Leather ounces. Dimensions, 1⅝" dia. dial; ¼" thick; wt. 1½ oz. Each gauge packed in handsome leather case.

Representatives in principal cities. B. C. AMES CO. 34 Ames Street Waltham 54, Mass.
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

AMES COMPACT BENCH-MODEL DIAL COMPARATOR No. 2



Stable, compact design of the lightweight Ames No. 2 Dial Comparator makes it ideal for impersonal bench inspection. Ideal for checking sheet materials to ASTM specifications when equipped with dead weights and proper contact points. Dial graduations available — .001", .0005", .0001". 2" dia. table easily adjustable to bring pointer to "0". Fingertip lever raises contact for rapid insertion of pieces. Send for descriptive folders on these gauges.

Mention Item NED-2092 when writing

CUT POWER COSTS!

with
SPRAGUE
POWER FACTOR CAPACITORS

Lower power bills . . . greater loads from present circuits . . . less wiring, transformer, and switchgear costs in new installations—these are some of the advantages of SPRAGUE "on-the-spot" low-voltage industrial power factor correction capacitors. Write for a free copy of the Sprague Power Factor Correction Guide today and find out how you, too, can save money with Sprague Capacitors.

SPRAGUE ELECTRIC COMPANY
NORTH ADAMS MASS.

Mention Item NED-2093 when writing

FEROX

T. M. Reg. U. S. Pat. Off.

Destroys Rust..Saves Metal

FEROX removes ALL rust from metal—safely . . . quickly . . . easily . . . economically . . . thoroughly.

FEROX handles entire range of Rust Removal. It is used full-strength for heavy duty work . . . extended with 1 to 10 parts water for thin section and intricate parts. Removes all rust from heaviest scale to lightest film. Inhibits metal against rerusting indefinitely under inside storage conditions, permitting follow-up painting or plating when convenient.

FEROX saves much more than it costs. Reclaims rusted material and parts to put back into service and prevents loss from further rust destruction.

Rust removal with FEROX is cleaner, quicker, safer, cheaper . . . more thorough and permanent than sand blasting. No noise or dust.

PROVE WITHOUT RISK THAT FEROX will make you 500% profit on its investment. Order a 4 gallon FEROX Trial Unit to-day—at $4.00 per gallon. Use 2 gallons. If not completely satisfied—return balance within 30 days, transportation prepaid and we will cancel the invoice.

WHAT CAN YOU LOSE:—

Gather up a wash tub full of rusted valves, pipe fittings, bolts, repair parts, plates, etc. Soak them cold in FEROX. The saving effected by reclaiming this rusted material will more than pay for the FEROX.

ORDER A TRIAL UNIT OF FEROX TO-DAY—

SERVICE INDUSTRIES
2103-05-07 E. SOMERSET ST.
PHILADELPHIA 34, PA.

▲ Mention Item NED-2094 when writing ▲

Clearsite

PLASTIC CONTAINERS

Protect Before & After Using

Industrial Diamond Company, Inc.

Show Your Products and Sell

Enhance Product Value

Andrew Corp.

DRILLS and TOOLS, INDUSTRIAL JEWELS, TAPS and DIES, SCREWS, SPRINGS, NOZZLES, VALVES, FINE MACHINE PARTS, FISHING TACKLE, ELECTRICAL PARTS, etc. are packaged in Clearsite

PERMANENTLY IMPRINTED
FLEXIBLE or RIGID • SHATTERPROOF
FEATHERLIGHT • ¼ the Weight of Glass • COLORFUL • ALL COLORS
Clear or Opaque

CLEARSITE Plastic Containers are selling vials that project your products to your prospects. They offer the maximum in protection and, at the same time, make it easy for your customers to remove and to replace the contents. That's most important for products that must be protected when not in use and yet must be easily available at a second's notice.

Shatterproof CLEARSITE, your selling container, remains with your products because it is a permanent storage vial as well, and eventually will be utilized as a re-use container.

Because your CLEARSITE container is printed with your trademark, directions, name and address, you almost guarantee repeat business.

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Or write for our data-packed literature that will give you the complete, informative story on CLEARSITE Plastic Containers.

CLEARSITE Is Made Only By

CELLUPLASTIC CORPORATION

58 Avenue L, Newark 5, N. J.

America's #1 Source for Plastic Containers • Established 1919

▲ Mention Item NED-2095 when writing ▲

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Flexible Shaft Machines

Stow Mfg. Co.—Complete line of flexible shaft machines and accessories, tool shafts, power drive shafts and drill shafts are listed in illustrated catalog 50. Designed as reference book, publication groups tools by type and use, charting performance data and specifications within each group.

▲ Mention Item NED-2096 when writing ▲

Cast Sprockets

Chain Belt Co.—Dimensions, specifications, list prices and styles of Rex stock size cast sprockets for drive and conveyor chains are included in 16-page illustrated bulletin No. 49-30. Rules for selection, alignment and care of sprockets are presented.

▲ Mention Item NED-2097 when writing ▲

Inclinable Presses

Federal Machine & Welder Co.—8-page illustrated bulletin OBI presents line of high speed precision production inclinable presses. Featuring Warco pneumatic clutch and brake, these open back presses range in capacity from 40 to 200 tons, with stroke lengths to suit requirements.

▲ Mention Item NED-2098 when writing ▲

Filtering Equipment

T. Shriver & Co.—Two 4-page illustrated bulletins No. 132 and 133 are descriptive of cotton, wool, synthetic, glass, metal and asbestos filter media and of enclosed horizontal plate pressure filter respectively.

▲ Mention Item NED-2099 when writing ▲

Metal Trim & Moldings

Wooster Products Inc.—Illustrated catalog and handbook No. 150 describes complete line of aluminum and brass moldings and includes data on redesigned types for decorative and functional trim applications. Slotting tool to simplify forming of trim is covered.

▲ Mention Item NED-2100 when writing ▲

Diesel Engines

Cummins Engine Co.—Sixty-eight high-speed diesel engines for automotive, industrial and marine applications in power range of 50 to 550 hp and three medium-speed diesels are described in 36-page condensed catalog No. 5218C. Listed for the first time are 27 new models introduced within the past year.

▲ Mention Item NED-2101 when writing ▲

Welding & Cutting Equipment

Dockson Corp.—48-page illustrated catalog No. W-50 lists full details on line of welding and cutting equipment and supplies. Covered are regulators; welding, soldering and cutting torches and tips; complete welding, cutting and brazing outfits; and accessories such as goggles, gages, gloves, eye shields, valves, hose and fittings.

▲ Mention Item NED-2102 when writing ▲

Stamping Facilities

Motor Metal Mfg. Co.—Illustrated brochure outlines company's rise in stamping industry and depicts how it is equipped to serve customers. Included are photographs of engineering and experimental departments; tool and die room; press room and assembly, welding and inspection departments. Wide variety of typical stampings is shown also.

▲ Mention Item NED-2103 when writing ▲

Woodworking Machines

Duro Metal Products Co.—Details, capacities, specifications and prices of more than 30 precision power tools are included in 1950 pocket-size catalog. Products described include table saws, drill presses, lathes, jointers, sanders, jig saws, shapers and accessories.

▲ Mention Item NED-2104 when writing ▲

Suspended Ceilings

Sanymetal Products Co., Nailock Steel Div.—Complete details on the Nailock method for all suspended ceiling construction and for furring all types of nailable materials are offered in 8-page illustrated bulletin N-2. Inverted U-shaped steel nailing channels automatically hold Nailock nails driven through backer board. Channels guide nails around integral steel bar, and nails are firmly anchored.

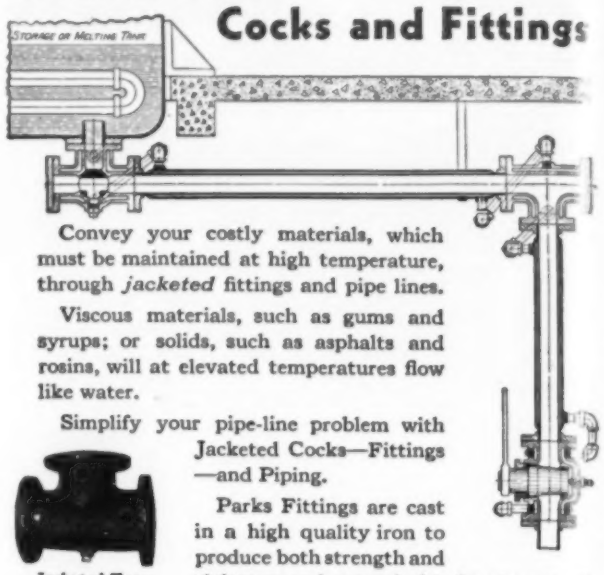
▲ Mention Item NED-2105 when writing ▲

Flexible Plastic Tubing

U. S. Stoneware Co.—24-page illustrated technical bulletin No. T-77 presents uses, properties and chemical-resistant characteristics of Tygon plastic tubing. This clear, inert, flexible, nontoxic, sterilizable tubing is available with inside diameters of ⅛ to 1 in. with wall thicknesses up to 3/16-in. and in lengths of 100 to 2000 feet.

▲ Mention Item NED-2106 when writing ▲

JACKETED Cocks and Fittings



Convey your costly materials, which must be maintained at high temperature, through *jacketed* fittings and pipe lines.

Viscous materials, such as gums and syrups; or solids, such as asphalts and rosins, will at elevated temperatures flow like water.

Simplify your pipe-line problem with Jacketed Cocks—Fittings—and Piping.

Jacketed Tee

Parks Fittings are cast in a high quality iron to produce both strength and tightness and are suitable for steam pressures up to 150 pounds.

Jacketed 3-Way Cock

Send for descriptive literature showing styles, sizes, and dimensions.

Parks-Cramer Company
ENGINEERS and CONTRACTORS
Fitchburg, Massachusetts

▲ Mention Item NED-2107 when writing ▲

MAKE PEERLESS ELECTRIC *your* MOTOR DEPARTMENT

• When you bring your motor problems to Peerless Electric, you add a motor department to your plant facilities. Peerless is small enough to give individual engineering attention to your motor requirements—large enough to manufacture the motors you need in any quantity.

We can give you the same quick action on special motors that you could get in your own plant if you had a motor department—action that will give you promptly the information or samples you may need.

Single Phase
Polyphase
Direct Current Motors

THE PEERLESS ELECTRIC COMPANY • WARREN, OHIO

Manufacturers of Quality Motors for more than 55 years

Peerless-Electric MOTORS • FANS • BLOWERS

▲ Mention Item NED-2108 when writing ▲

LET TRIPLETT STANDARDS BE THE GUIDE FOR YOUR SPECIALS

3½" Model 321-T
Round Molded Case

Notice
DESIGN ENGINEERS...

Write for actual size meter cut-outs on heavy cardboard stock. Great help in visually planning your panel layout when designing new equipment. Furnished with dimensional diagrams showing complete mounting information and catalog of ranges and prices. Send for your cut-outs today.

3½" METER ADAPTATIONS AVAILABLE

CASE STYLES—Round or Square. CASE MATERIALS—Metal or molded. TYPES MOVEMENTS—AC-DC-Electrodynamometer-RF. SPECIALS—Suppressed zero, differential-type meters, sensitive instrument-type relays made to order. Decibel meters. Rectifier types. Meters specially built for adaptations where subject to extreme vibration, temperature, humidity, strong magnetic fields, etc. POINTERS—Spade, knife-edge, or lance pointers. COLOR In case and dials. MOUNTING—Flush, rear clamp; flush, rear screw; flush, rim mounting; projection, rear screws. DIALS—Metal, attractively printed. Your own name and trademark economically reproduced at little or no additional cost depending on quantity of run. ILLUMINATION—Rear and front lighting offered in a wide variety.

Precision first...to last

TRIPLETT ELECTRICAL INSTRUMENT COMPANY
Bluffton, Ohio, U. S. A.

In Canada: Triplett Instruments of Canada Georgetown, Ontario

▲ Mention Item NED-2109 when writing ▲

DOLLIES & TRUCKS

● A general purpose dolly with open frame and flush top. Light and easy to carry yet capable of handling heavy loads. Equipped with four swivel casters having 3" semi-steel or rubber tired wheels.

★ Ironbound material handling representatives are located in all important cities. These men can help you with all handling problems involving the use of standard Skids, Semi-Live Skids, Floor Trucks, Roll Handling Trucks, Dollies or specially designed adaptations to meet particular requirements.

IRONBOUND

FLO TRUK

● Popular as an all-purpose general merchandise unit. Ruggedly constructed — selected hardwood deck. Equipped with rubber tired or semi-steel wheels.

Ask for Catalog GP-7

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

▲ Mention Item NED-2110 when writing ▲

What Shapes—
IN SMALL METAL TUBING

Superior
ROUND & SHAPED TUBING
(.010" to ⅝" O.D. Max.)
Available in:
Carbon Steels: AISI—MT C-1008, 1010, 1015, 1020, 1025, 1035, 1075, 1095
Alloy Steels: AISI—4130, 4155, 52100
Stainless Steels: AISI—303, 304, 309, 310, 316, 317, 321, 347, 403, 420, 430, 446, 502 (T-1).
Nickel Alloys: Nickel, "Monel", "K-Monel", "Inconel", Beryllium Copper

Round or Shaped tubing in cut, multiple or random lengths, are drawn at Superior to "standard" specifications or to your specialized designs. For bourdon springs, flat and elliptical ovals can be produced in any analysis shown in the accompanying table.

Tools are prepared and in stock for many different shapes and sizes and a Superior representative will gladly call at your office to review dimensional, analysis and delivery requirements. Please feel entirely free to use this Superior service—your request will receive prompt attention.

For Superior Tubing on the West Coast, call PACIFIC TUBE COMPANY, 5710 Smithway Street, Los Angeles 22, California, ANgelus 2-2151

Superior
THE BIG NAME IN SMALL TUBING
All analyses .010" to ⅝" O.D.
Certain analyses (.035" max. wall) up to 1⅛" O.D.

SUPERIOR TUBE COMPANY 2018 Germantown Avenue Norristown, Pa.

▲ Mention Item NED-2111 when writing ▲

PIPE MARKERS

anyone can use— everyone can read

QUIK-LABEL Pipe Markers conform to American Standards Association Pipe Identification System. QUIK-LABELS come on handy cards . . . stick without moistening. Names of materials printed in large black letters on correct ASA background colors. CAN BE READ UP TO 75 FEET. Markers for over 140 materials, ***including all materials listed in ASA Standard A13,*** available on Brady Stock Cards. Specials made to your order. QUIK-LABEL Pipe Markers are Silicone Plastic coated to resist dirt, grease, fumes, moisture . . . indoors or out. Replace slow and costly painting and hand stenciling. Exclusive Starter-Strip automatically releases part of label for fast peeling. QUIK-LABELS mark your pipes so that anyone who can read will know what's in them. ***QUIK-LABELS leave no room for doubt . . . or tragedy.*** Write for useful literature and FREE SAMPLES today.

FREE SAMPLES

W. H. BRADY COMPANY | Established 1914
Manufacturers of Self-Sticking Tape Products
Chippewa Falls 5, Wisconsin • Distributors in 125 Cities

▲ Mention Item NED-2112 when writing ▲

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Pressure, Flow & Level Controls

Davis Regulator Co.—Complete line of pressure regulators, valves, governors, strainers and vents is covered in 80-page illustrated condensed catalog A-50. Space is devoted also to descriptions of liquid level controllers, solenoid valves and Dia-Ball transmission unit.

▲ Mention Item NED-2113 when writing ▲

Soot Blowing Systems

Vulcan Soot Blower Corp.—Automatic-sequential power-operated soot blowing systems are described and illustrated in 16-page bulletin No. 483. Operating procedures are discussed in detail, and ten typical installations are shown diagrammatically.

▲ Mention Item NED-2114 when writing ▲

Posture Seating

Remington Rand Inc.—22-page illustrated booklet No. FF-116 presents line of aluminum posture chairs and shows how they are adjustable five ways to conform to different physical proportions of users. Models described include those for executive, secretarial and clerical use and upholstered in plastic coated fabric, machine buff leather, Bordeaux-Caval mohair or Bedford cord.

▲ Mention Item NED-2115 when writing ▲

Conveyor Belting

Buffalo Weaving & Belting Co.—Illustrated folder describes 35 widths of belt, seven different plies and six different coatings that can be applied to adapt conveyor belts to various uses. Also tabulated are recommended uses for treated belts.

▲ Mention Item NED-2116 when writing ▲

Movable Metal Walls

Mills Co.—48-page illustrated catalog No. 50 is designed as practical workbook for architects, engineers and contractors dealing with problems involved in flexible division of interior space in offices and commercial and industrial structures. Features of movable metal walls include all-welded panel construction, special baked-on enamel finishes to eliminate harsh light reflection and provisions for easy lay-in wiring.

▲ Mention Item NED-2117 when writing ▲

Packaging & Paper Lacquers

Hercules Powder Co.—32-page illustrated booklet presents basic data on nitrocellulose packaging and paper lacquers to aid users in choosing resins and plasticizers for proper applications. Flexibility, grease resistance, color stability and specular gloss are some of properties discussed; and explanation of testing methods is provided also. Sixteen charts and graphs supplement text.

▲ Mention Item NED-2118 when writing ▲

Rubber Tank-Linings

B. F. Goodrich Co.—Tables showing acids which can be handled safely and economically by rubber linings and listing storage tank dimensions are feature of 6-page illustrated catalog section 9020. Process for locking rubber to metal is described and materials used in various types of standard linings discussed.

▲ Mention Item NED-2119 when writing ▲

Mastic Flooring Material

Flash-Stone Co.—Specifications, costs, coverages, materials and installation data on cold-mixed asphalt mastic industrial floors are detailed in 28-page manual. Recommendations, descriptions and other pertinent information for floor maintenance and repair are included.

▲ Mention Item NED-2120 when writing ▲

Corporation Activities

Union Carbide & Carbon Corp.—32-page illustrated brochure "Products and Processes" depicts principal activities of five major corporation groups: alloys and metals; chemicals; electrodes, carbons and batteries; industrial gases and carbide; and plastics.

▲ Mention Item NED-2121 when writing ▲

Lift Truck

Hyster Co.—More than 70 basic changes made in model 20 Hyster 2000-lb lift truck are enumerated in 8-page illustrated form 1135. Chief features are cool operating temperature, air-cooled engine, long-life clutch, double-acting hydraulic tilt control, accessibility of parts for servicing, automotive-type battery and good braking power.

▲ Mention Item NED-2122 when writing ▲

Shapers

Cincinnati Shaper Co.—32-page illustrated catalog N-5 is guide to line of 25 shapers available in ten sizes and five types. Plain table, universal, high-speed and special shapers are discussed and applications of each depicted.

▲ Mention Item NED-2123 when writing ▲

gives ordinary water greater fire extinguishing power

new Rockwood Type SG-48 WaterFOG Nozzle

Rockwood type SG-48 WaterFOG Nozzles discharge (1) high velocity WaterFOG (2) straight stream or (3) low velocity WaterFOG. They will out-perform any other fog nozzles operating on either high or low water pressures for all around fire fighting purposes. The nozzles provide greater protection and fire fighting efficiency for your firemen.

Approved by Underwriter's Laboratories, Inc. and Factory Mutual Laboratories. Write for bulletin C-501R.

ROCKWOOD SPRINKLER CO.
44 HARLOW STREET WORCESTER 5, MASS.

▲ Mention Item NED-2124 when writing ▲

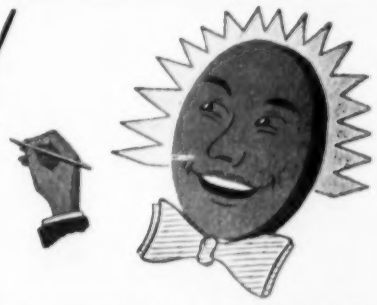
New Checkweighing Scale for Filled bags

Here is a new EXACT WEIGHT high-speed precision scale designed for checkweighing filled bags. Handles either valve pack type bag which comes down conveyor and crosses scale on its side or open mouth type bag in upright position. Scale is set in conveyor line after filling machine. Each bag is weighed; correct bags going to sewing machine, over and underweight bags removed for trimming. Features are (1) checkweighs each bag (2) fits into any production line (3) illuminated dial that warns operator when filling machine adjustments should be made (4) standard capacity to 100 lbs, more weight if needed. For full details write for circular covering EXACT WEIGHT Model #1302-R.

EXACT WEIGHT SCALES
Industrial Precision
THE EXACT WEIGHT SCALE COMPANY
129 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

▲ Mention Item NED-2125 when writing ▲

a+r=B!



Try This Formula For Faster Finishing!

BURRING, FINISHING, CLEANING, POLISHING —IN ONE OPERATION!

That's perfectly balanced *abrasive-and-rubber* Brightboy, in ready to use wheels, sticks, rods and blocks, for machine and manual work. Gives unique surfacing result so smooth it often serves as the final polish.

Use Brightboy on metals, wood, plastics, glass. Shape it to contours, specify it for precision work. Used following the rough grind; bridges the gap between grind and buff. Will save up to 50% finishing time. Try it in comparison with your present materials and methods.

Ask your dealer for the Brightboy catalog-manual. Write the Brightboy Service Department on any problems where finishing is involved.

WELDON ROBERTS
Brightboy

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
NEWARK 7, N. J.
America's Pioneer Manufacturers of Rubber-Bonded Abrasives

▲ Mention Item NED-2126 when writing ▲

Cut Production Costs . . .
Permit Ease of Assembly

HERE'S HOW

- Eliminate skilled labor in key seat cutting and key fitting operations.
- Are easy to assemble because of flat key bottom and starting radius.
- Key reaches deep into shaft and is firmly imbedded, enabling it to withstand greater strain.
- Offer greater resistance to shaft fracture due to shape of key set and permanent key fit.
- Simplify key seat cutting in tapered shafts.

Whitney Woodruff Type Keys are made to American Standard sizes and Whitney Standard sizes for special application. They are available from Whitney distributors throughout the country or write:

WHITNEY CHAIN & MFG. CO.
Division of Whitney-Hanson Industries, Inc.
203 Hamilton Street, Hartford 2, Conn.

▲ Mention Item NED-2129 when writing ▲

NEW TAPE GETS GREATER STRENGTH, FLEXIBILITY—FROM GLASS...

TOUGH "BUNDLING" OF PREFABRICATED STEEL PARTS MADE EASY WITH EXTRA STRONG PERMACEL-15 FIBERGLAS THREAD REINFORCED TAPE. HOLDS FAST, SAVES TIME—REPLACES WIRE, STEEL STRAPPING!

UNIQUE CONSTRUCTION OF PERMACEL-15: SURPRISINGLY STRONG, FINE SPUN GLASS THREADS ARE SEALED TO TOUGH KRAFT BACKING WITH ADHESIVE COATING. SAFE, FLEXIBLE—SUPPORTS 175 LBS. PER INCH WIDTH.

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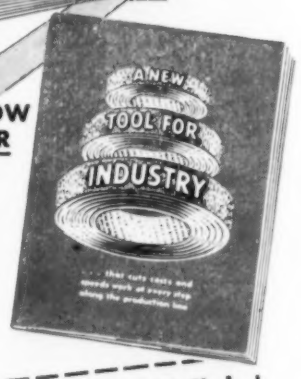

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CITY..... STATE..... 5M

Permacel®
INDUSTRIAL TAPES
INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

▲ Mention Item NED-2130 when writing ▲

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Fork Trucks & Tractors

Clark Equipment Co.—Dimensions and specifications on gas and battery powered fork lift trucks, gas powered towing and dump tractors and various attachments and devices are presented in 8-page illustrated catalog form No. TC-27-5-49.

▲ Mention Item NED-2131 when writing ▲

Oil-Hydraulic Pumps & Controls

Vickers Inc.—48-page illustrated catalog No. 4900 contains descriptions, specifications and illustrations of oil-hydraulic balanced vane and axial piston type pumps; pressure, volume and directional control valves; hydraulic motors; transmissions and cylinders.

▲ Mention Item NED-2132 when writing ▲

Strain Gages

Baldwin Locomotive Works—How to apply SR-4 strain gages is subject of 8-page illustrated bulletin 279-B. Detailed procedures for attaching strain gages to surfaces are given, and cartoons animate the reactions of gages to correct and incorrect methods of application. Instructions are given for surface preparation, cementing, clamping, heat drying, moistureproofing and testing.

▲ Mention Item NED-2133 when writing ▲

Gas Boosters & Exhausters

Roots-Connersville Blower Corp.—Details of type XA gas pumps for use as boosters or exhausters in wide range of industrial and other applications are presented in 8-page illustrated bulletin 31-B-17. Units are built in 18 standard sizes with capacities ranging from 5 to 620 cfm at pressures up to 2 psi or 5 to 175 cfm at 6 psi.

▲ Mention Item NED-2134 when writing ▲

Vertical Centrifugal Pumps

LaBour Co.—16-page illustrated bulletin 53 explains design features and operation of type BG vertical self-priming centrifugal pumps. Contact type seal is not required in this efficient pump.

▲ Mention Item NED-2135 when writing ▲

Hydraulic Equipment

Hannifin Corp.—"Hy-Power Hydraulics" is title of illustrated bulletin containing comprehensive report on use of hydraulic pressures up to 5000 psi for wide variety of high speed production operations including 'silent squeeze' riveting, punching, pressing, multiple riveting and multiple punching.

▲ Mention Item NED-2136 when writing ▲

Flooring Material

Master Builders Co.—26-page illustrated booklet "The Masterplate Iron-Clad Concrete Floor" gives full information on material which is applied ⅛-in. thick and provides up to six times longer wear than plain concrete. Flooring is spark-resistant, static disseminating, non-dusting, corrosion-resistant and easy to clean.

▲ Mention Item NED-2137 when writing ▲

Electronic Controls

Photoswitch Inc.—64-page illustrated handbook "Cutting Production Costs With Electronic Controls" contains case studies of actual applications of photoelectric and electronic timers, counting devices, relays, register controls, combustion regulators and flame failure safeguards. Sketches serve to show typical installations for each application.

▲ Mention Item NED-2138 when writing ▲

Tool & High Speed Steels

Allegheny Ludlum Steel Corp.—16-page illustrated engineering bulletin "The Working of Tool and High Speed Steels" gives information from laboratory and service tests on various grades in A-L line. Included are simple selector chart, procedures and tabulations that form working manual for makers and users of cutting tools and dies.

▲ Mention Item NED-2139 when writing ▲

Pulverizing & Dust Collecting Units

Pulverizing Machinery Co.—50-page illustrated booklet "Mikro" depicts complete line of equipment and its use in production and handling of fine and ultrafine powders of great variety of materials including chemicals, pharmaceuticals, colors, pigments, cosmetics, soaps, resins, food products, plastics, ceramics, insecticides, limes, minerals and metals.

▲ Mention Item NED-2140 when writing ▲

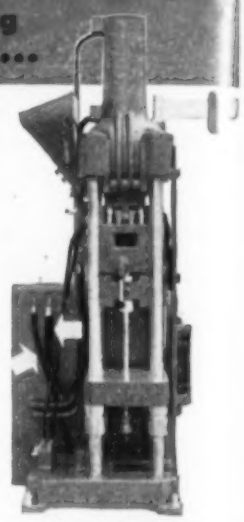
Vacuum Filtration

Filtration Engineers, Inc.—Technical details of continuous rotary vacuum filtration equipment are described in 24-page illustrated bulletin 103. How FEinc rotary vacuum filter speeds continuous processes in many industries is shown. These units feature string discharge.

▲ Mention Item NED-2141 when writing ▲

CMH FLEXIBLE MACHINE TOOL CONDUIT
FOR SAFE, DEPENDABLE wiring under all conditions...

Consisting of a rugged flexible metal hose liner with a durable synthetic cover, CMH Machine Tool Conduit meets the severest requirements for the wiring of all types of machinery. It is extremely flexible . . . liquid tight . . . unaffected by vibration . . . and has a smooth metal bore that prevents excessive abrasion. Sizes ⅜" through 2", cut lengths or mill lengths. May be used with standard rigid conduit fittings. Write for full details.



CMH Machine Tool Conduit used on a Giddings and Lewis Injection Molding Machine.

CMH CHICAGO METAL HOSE CORPORATION
MAYWOOD, ILLINOIS
Plants at Maywood, Elgin and Rock Falls, Illinois

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Economical Storage

ROTABINS

Model 3440 65½" high
8 Sections . . . $84
Model 3435 65½" high
7 Sections . . . $75
Model 3420 37" high
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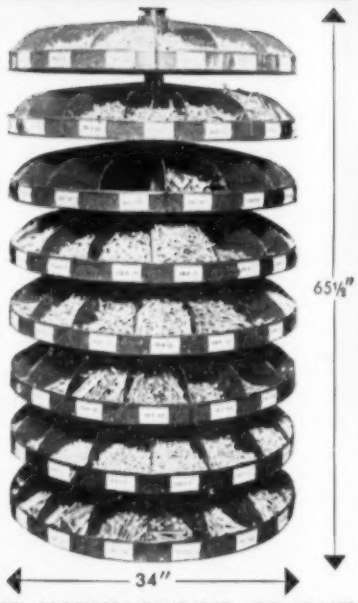
All prices F.O.B. Wellston, Ohio.
IMMEDIATE DELIVERY

All sections have 5 compartments 21" wide at face. Extra dividers may be used. Model illustrated has 120 compartments each 7" wide at face.

Rotabins turn aisle space into storage space, eliminate miles of needless walking, save time and reduce storage overhead.



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WELLSTON, OHIO
SHELVING • PARTS BINS • ROTABINS • COUNTERS • RACKS • TABLES

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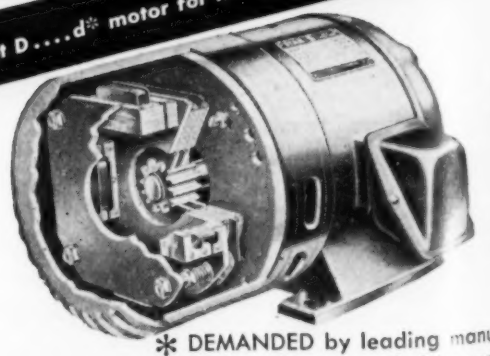
BETTER . . . SURER . . . SIMPLER
The improved STAR BRAKEMOTOR
The best D....d* motor for tough "start and stop" jobs



Less strain on shaft and bearings.
Maximum dissipation of heat.
Simpler tension adjustment.
New streamlined removable cover.

* DEMANDED by leading manufacturers of cranes, hoists, machine tools, printing presses, bottling and packaging machinery, high-speed molding presses and wherever equipment must "start and stop" continuously and with split-second accuracy.

Write for your copy of our new bulletin.

STAR-KIMBLE ELECTRIC CO.
A Subsidiary of Miehle Printing Press & Mfg. Co.
214 Bloomfield Ave., Bloomfield, N. J.

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MARVEL No. 18—18" x 18" MARVEL No. 24—24" x 24"

Designed and developed to bring true accuracy and economy to sawing big work up to 24" x 24". In hundreds of metal working plants from coast to coast, these giant saws have proven themselves to be the best cut-off equipment for the biggest and toughest steels. There are nine other types of MARVEL saws to meet every sawing need. Write for our catalog and give us an outline of your work. We will recommend the right MARVEL saw for your work.

MARVEL Metal Cutting SAWS
Better Machines—Better Blades
ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U.S.A.

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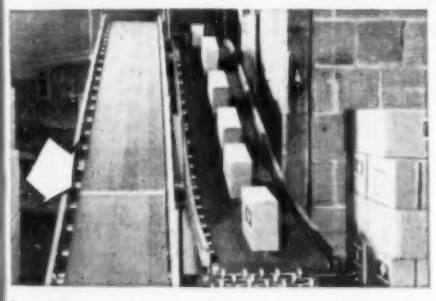
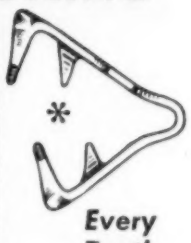
ALLIGATOR ®
CONVEYOR BELT LACING





Every Tooth A Vise*

in Long Continuous Lengths for Conveyor Belts . . . . .

★ Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
★ In canneries where corrosion or rust is a problem specify Alligator made of Monel.
★ For magnetic separators or anti-sparking specify Alligator made of Everdur.
★ Separable and smooth on both sides.
★ 12 sizes. For belts from 1/16" to 5/8" thick—and *any width*.

Order from Your Supply House. Ask for Bulletin A-60.
FLEXIBLE STEEL LACING CO. 4664 Lexington St., Chicago 44, Ill.
JUST A HAMMER TO APPLY IT

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Atlas 7" SHAPER

On any shaping job within a 7" stroke, the low-cost Atlas shaper is a time-saver and money-maker. It's so easy to set-up, so inexpensive to operate, and so dependably accurate that oversize equipment can't match it for efficiency and economy.

If your production includes small parts, you'll find hundreds of cost-cutting uses for one or more Atlas 7" Shapers in your plant—production lines, tool room, and maintenance. It has a wide work range—45 to 186 strokes per minute, and cutting speeds of 3½ to 116 fpm. Timken Tapered Roller Bearings, crank type ram drive, extra-heavy construction, V-belt drive. Send for catalog.

ATLAS PRESS CO.
323 N. Pitcher St., Kalamazoo, Mich.
MATCHED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

▲ Mention Item NED-2147 when writing ▲

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Steel Castings

Dodge Steel Co.—16-page illustrated booklet "Dodge Steel Castings" covers specifications, physical properties and chemical properties of series of carbon and alloy steels for castings. Metals vary from normal carbon steel through various combinations of chromium, molybdenum and other alloys.

▲ Mention Item NED-2148 when writing ▲

Milling Machines

Cincinnati Milling Machine Co.—36-page illustrated catalog M-1670 on Hydromatic milling machines gives specifications and operating features of these heavy duty, fixed bed, manufacturing type machine tools. Eighteen sizes cover range of 24 to 90-in. table travel.

▲ Mention Item NED-2149 when writing ▲

Thermal Insulations

Owens-Corning Fiberglas Corp.—All forms of Fiberglas thermal insulations for industrial and construction applications are described in 16-page illustrated bulletin No. 37. Data on thermal conductivity and sound absorption properties are included. Typical applications of these materials are shown.

▲ Mention Item NED-2150 when writing ▲

Platform Type Lifts

Globe Hoist Co., Industrial Lift Div.—20-page illustrated catalog "Modern Lifting" deals with hydraulic and electric powered platform type lifts for loading and materials handling. Details are presented on dock, bridge and paper roll lifts; self-leveling ramps; ramp eliminators and new Wall Climber for mounting on outside of building.

▲ Mention Item NED-2151 when writing ▲

Miniature Appliance Lamps

General Electric Co., Lamp Dept.—"The Light Touch in Appliances" is title of 8-page illustrated bulletin No. 3-9280 that explains how miniature lamp bulbs can be used to advantage in household appliances. Recommended sizes and types of small lamps for incorporation in original designs are shown.

▲ Mention Item NED-2152 when writing ▲

Pneumatic Clutch-Brake

Clearing Machine Co.—Operating and application details of new Tornadyne clutch and brake unit are described in 4-page illustrated bulletin 213. In this drive unit, air pressure engages clutch and releases brake. With pressure off, spring disengages clutch and applies brake. Electric valves control air to provide any desired operation. This drive was developed specifically to power presses.

▲ Mention Item NED-2153 when writing ▲

Assembled Fasteners

Pheoll Mfg. Co.—28-page illustrated catalog No. 80-A gives types, specifications and application data on complete line of Sems fasteners which are assembly of screw and free-rotating washer. Round, pan, truss, fillister, flat and oval head styles are available in slotted and Phillips types. Hexagon head Sems are also available in plain, indented and slotted head types. Lock washer types include external, internal, countersunk, spring, flat metal, dome, fiber and heavy duty units.

▲ Mention Item NED-2154 when writing ▲

Headers & Sealed Leads

Electrical Industries, Inc.—14-page illustrated file folder "Data & Specifications on E-I multiple headers and Sealed Leads" shows construction and explains applications of these units to electrical equipment and components.

▲ Mention Item NED-2155 when writing ▲

Power Pipe Threaders

Beaver Pipe Tools, Inc.—How, where and why model C portable power units for pipe threaders facilitate work are explained in 4-page illustrated bulletin.

▲ Mention Item NED-2156 when writing ▲

High-Strength Steel

Jones & Laughlin Steel Corp.—32-page illustrated brochure "The Transportation Steel" describes Otiscoloy low-alloy high-strength steel used widely in the transportation industry. Complete technical data including physical properties are presented together with pictures of fabricating operations and finished products.

▲ Mention Item NED-2157 when writing ▲

Special Transformers

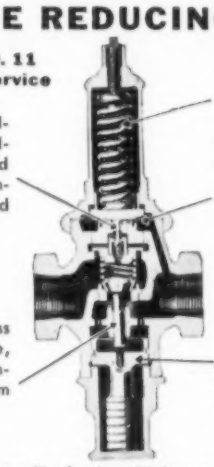
Nothelfer Winding Laboratories—Special transformers ranging from 10 va to 300 kva for 20 to 400-cycle operation and up to 60 kv for industrial, electronic and research use are described in 8-page illustrated bulletin.

▲ Mention Item NED-2158 when writing ▲

▲ Mention Item NED-2159 when writing ▲

5 Quality Features
THAT ASSURE LOW COST PRESSURE REDUCING SERVICE

MASON NO. 11 for Steam Service



1. Carefully calibrated diaphragm spring insures accuracy throughout entire control range.
2. Stainless steel auxiliary valve unit, hardened and ground pilot valve — eliminates sticking and wire drawing.
3. Phosphor bronze diaphragm.
4. Special alloy stainless steel main valve, hardened and general, prevents steam cutting.
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The No. 11 Mason Reducing Valve assures precise pressure control in all types of applications. Pilot operation assures fast, accurate response to controlled pressure variations. Initial pressure ranges up to 250 lbs. reduced to any desired pressure between 5 and 75 lbs. or 75 and 225 lbs. Bronze bodies, screwed connections in sizes ½" to 2". Iron bodies, 250 lb. flanges in sizes 2½" to 4". Maximum working pressure 250 lbs. @ 450°F.

Your local Mason-Neilan industrial distributor is ready to serve you from his stock

MASON-NEILAN REGULATOR COMPANY
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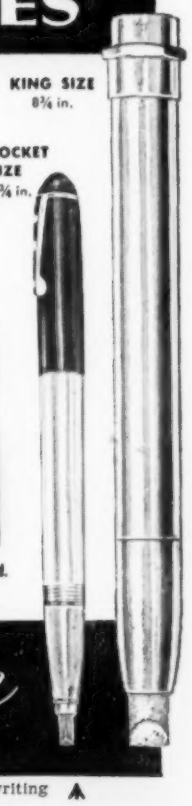
NOW! — your favorite marking tool IN 2 SIZES

Industry Adopts COLOR MARKING



Our records show that the nation's biggest manufacturers are using Flo-master Semi-Opaque Inks for *parts and assembly identification*. A wide range of colors is available for marking on ANY surface—metals, plastics, wood, etc. Flo-master Inks are waterproof, non-smudging and fast-drying.

For fine marking use the POCKET SIZE Flo-master—for bold marking, the KING size.

Ask your supplier or, if you have an unusual problem, write to Cushman & Denison Mfg. Co., 135 W. 23 St., N. Y. 11, N. Y.

Cap of "King Size" may be screwed to bench to serve as stand.

Flo-master FOUNTNBRUSH

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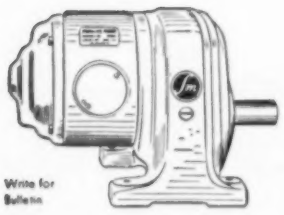
Costs Going Up?

Pull them down with Sterling Slo-Speed electric power drives.



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STERLING ELECTRIC MOTORS

Plants, New York • Los Angeles • Hamilton, Canada
Offices in Principal Cities

SLO-SPEED (Geared) • SPEED-TROL (Variable Speed) • KLOSD (Normal Speed)

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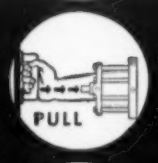
T-J CYLINDERS

Save Labor!



Speed Production!

Cut Costs!

T-J Air and Hydraulic Cylinders are built for 1001 tough jobs in industry . . . where pushing, pulling or lifting is needed . . . 100 lb. or 50,000 lb. Available in many standard sizes and styles . . . both cushioned and non-cushioned types. Backed by 32 years' experience . . . built for long-life dependability. Write for latest catalogs. The Tomkins-Johnson Co., Jackson, Michigan.

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• RIVETORS . AIR AND HYDRAULIC CYLINDERS . CUTTERS . CLINCHERS

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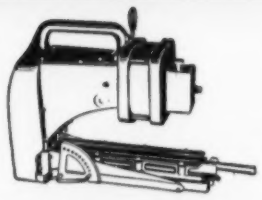
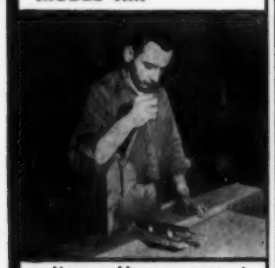
INTERNATIONAL PORTABLE STAPLE MACHINES

MODEL HM

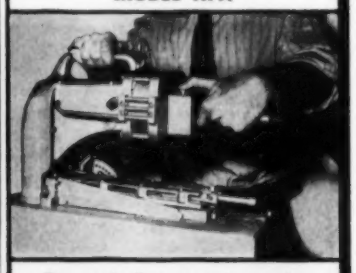


MODEL HPA



Manually operated, weighs only 14 pounds. Extremely versatile, excellent for decentralized shipping or where volume does not warrant power driven equipment. Closes filled cartons from the outside!

$150.00 f.o.b., Havertown, Pa.



Pneumatically operated, can also be worked into stationary assemblies by means of a balance reel. Operator merely presses a button to drive staples. Closes filled cartons from the outside!

$325.00 (includes lubro-control unit)

EST. 1938

INTERNATIONAL STAPLE AND MACHINE COMPANY
HAVERTOWN 2, PENNA.

Distributors in Principal Cities

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New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Cutting Tools

Ex-Cell-O Corp., Continental Tool Works Div.—136-page illustrated catalog lists and describes all Continental carbide and high speed cutting tools, shows many special tools and contains complete broach and fixture section. Useful data and charts for those in metalworking industries are included for ready reference.

Mention Item NED-2165 when writing

Glycerine Applications

Glycerine Producers' Association—"Why Glycerine for Drugs and Cosmetics?" combines basic technical data for chemists with interesting usage facts for the non-technical buyer. This 20-page booklet has been prepared with the assistance of medical authorities, technical consultants and research laboratories. Included are tables of specific gravity, viscosity, freezing point, etc. of aqueous glycerine solutions at various concentrations, and a bibliography of references.

Mention Item NED-2166 when writing

Corrosion Resisting Fans

Duriron Co.—12-page illustrated bulletin 1103 on Durco corrosion resisting fans presents application data and specifications on five models with capacities ranging up to 7500 cfm.

Mention Item NED-2167 when writing

Precision Investment Castings

Precision Metalsmiths, Inc.—Detailed information on 80 alloys which have been precision cast is tabulated in 8-page manual "Investment Casting Alloys." Chemical composition, mechanical and physical properties, heat treatment and other data are presented on ferrous and nonferrous metals and alloys.

Mention Item NED-2168 when writing

Rust Preventives

Oakite Products, Inc.—16-page illustrated booklet lists properties and applications of Special Protective Oil, a material designed to give semipermanent rust protection to metal parts during production, in storage or while awaiting shipment.

Mention Item NED-2169 when writing

Industrial Bearings

Johnson Bronze Co.—84-page illustrated catalog No. 500 is complete manual on bronze bearing products and materials. Listings are included on standard motor replacement bearings; general purpose types; oil grooving; universal cored, solid and hexagon bars; babbitt; and graphite bearings.

Mention Item NED-2170 when writing

Steel Rings

Dresser Industries, Inc., Dresser Mfg. Div.—Illustrated broadside "If You Can See Your Product as Rings. . ." explains fabrication of stainless and other steel rings, motor frame assemblies, and wide variety of ring-shapes and weldments.

Mention Item NED-2171 when writing

Abrasive Belt Finishing

Minnesota Mining & Mfg. Co.—36-page illustrated guide book "Step Up Production" cites case examples of abrasive belt polishing and grinding. Techniques for finishing carbon and stainless steel sheets, steel tubing and bars, plastics, ceramics, glass, wood, odd-shaped parts and castings of gray iron, manganese, bronze and aluminum are shown. Details of abrasive belt equipment and accessories are included.

Mention Item NED-2172 when writing

Steel Windows & Doors

William Bayley Co.—36-page illustrated 1950 catalog lists design details, specifications and applications of projected, pivoted, security and other windows; intermediate casements; mullions and window and door operators.

Mention Item NED-2173 when writing

Electric Conduits

National Electric Products Corp.—32-page illustrated catalog No. 603 gives complete performance and application data on rigid steel and flexible metal conduits; electrical metallic, flexible nonmetallic and flexible metallic tubing; and associated fittings.

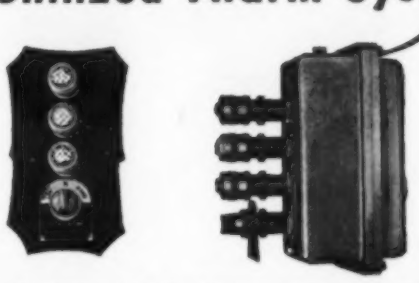
Mention Item NED-2174 when writing

Wooden Bearings

Principles and applications of oilless wooden bearings in modern machine design are covered thoroughly in new engineering manual. Guidance in proper selection and application of these bearings is offered. Manual is loaned to accredited engineers and designers on request. Issued by Paramount Oilless Bearing Co., Worcester, Mass.

Mention Item NED-2175 when writing

New UNILARM
The Unitized Alarm System



Unilarm, the factory built, standardized alarm system combines in one unit the many features essential for complete protection—unfailing in operation, easy to maintain.

Reduces installation costs to a fraction of previous systems.

Russell & Stoll's 48 years of specialized experience insures a product worthy of your confidence.

Bulletin H47-15 on request

EXPLOSION-PROOF
VAPORTIGHT
GENERAL PURPOSE

Since 1908

RUSSELL & STOLL COMPANY, INC.
PRECISION BUILT ELECTRICAL EQUIPMENT
125 BARCLAY STREET • NEW YORK 7, N. Y.

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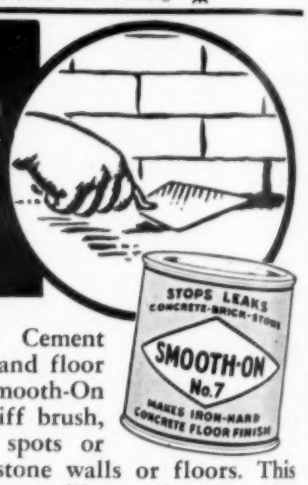
STOP BASEMENT WALL LEAKS



Smooth-On No. 7 Iron Cement stops your basement wall and floor leaks. You can apply Smooth-On No. 7 with a trowel or stiff brush, to cracks, holes, porous spots or seams in concrete, brick, stone walls or floors. This effective Smooth-On Cement will stay in place, because it expands slightly as it sets. You can also use Smooth-On No. 7 to stop leaks in tanks, cisterns, pools, troughs, fountains, etc. Use it too, to seal openings where piping passes through walls. Sold in 1, 5, 25, and 100 lb. sizes.

FREE Repair Handbook 40 pages packed with helpful suggestions for repairs to equipment and piping, in the shop, around the home and car. Also ask for leaflet describing the uses of Smooth-On No. 7. Write today.

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570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
NO. 7 IRON CEMENT

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WRITE TODAY!

DICO'S 1950 CATALOG NOW READY!

A UNIQUE CATALOG SIMPLIFYING YOUR WHEEL ENGINEERING PROBLEMS.

A MODERN LINE OF INDUSTRIAL WHEELS 6"-18" RUBBER DIAMETER

DICO CORPORATION
406 S.W. 16TH ST., DES MOINES 5, IOWA

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Hard to Please?

If you're looking for really fine quality heads, available at the lowest possible price, write or wire us today. Whatever your requirements, we can supply you.

We manufacture all types of multiple spindle, fixed center, adjustable and lead screw tapping heads.

IMMEDIATE DELIVERY!

Single eccentric type for equally spaced holes on bolt circles.

Two spindle head unit—one spindle fixed, the other spindle adjustable, for the fixed positions.

Universal joint with slip spindle fixed locating plate.

US HEADS SINCE 1915

UNITED STATES DRILL HEAD CO.
Dept. H CINCINNATI 4, OHIO

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Write for Bulletin IB-11

Can You Do Better

WITH ROLL-FORMED . . .

OR EXTRUDED METAL SHAPES?

For the lowest possible cost on light metal shapes, see what Werner can do for you. Send for the free bulletin.

Our recommendation will surely be unbiased, for we make *both* types . . . *extruded* shapes in aluminum, magnesium . . . *rolled* shapes in aluminum, stainless steel, brass, zinc, etc.

We custom-make shapes to your order, and do such secondary fabrication as polishing, punching, drilling, slotting. Delivered in strips, coils or cut to exact lengths.

R. D. WERNER CO., INC.
295 Fifth Ave., New York 16, N. Y.
Manufacturers of Metal Extrusions and Rolled Shapes

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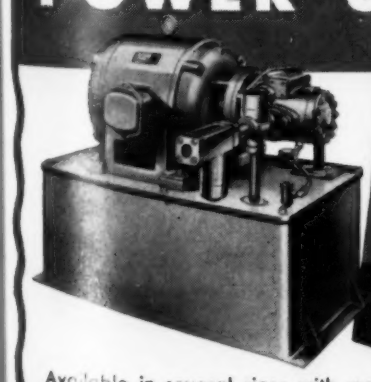
VICKERS Hydraulic POWER UNITS



Simplify Hydraulic System Design

Save Space

Reduce Costs

Available in several sizes with many different Vickers Pump combinations and electric motor arrangements, this self-contained hydraulic power unit meets a wide variety of industrial machinery requirements.

All necessary accessories are included; oil filters, strainers, oil level gage and pipe fittings, etc., complete and ready for connection to a machine hydraulic system.

Ask for Bulletin 46-43a

VICKERS Incorporated
Division of The Sperry Corporation
1456 OAKMAN BLVD. • DETROIT 32, MICH.

▲ Mention Item NED-2253 when writing ▲

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Diesel Fuels & Lubricants

Sinclair Refining Co.—48-page illustrated manual "Diesel Engines—Fuels and Lubricants" deals with design, operation, maintenance and performance of diesel engines in terms clear to the layman. Importance of proper fuel and lubricating oils in effecting economical engine performance is discussed.

▲ Mention Item NED-2254 when writing ▲

Designing with Aluminum Extrusions

Eight principles of design embodying advantages of aluminum extrusions are explained in 138-page technical reference book "Designing with Aluminum Extrusions." Broad range of shapes produced by extrusion is shown. Combining of extrusions to obtain desired shape using dovetail, contour, snap or sliding fits is discussed. Data are included on chemical, mechanical and physical properties; fabrication; alloy selection and finishes. Available only by writing to Reynolds Metals Co., Aluminum Div., 2552 S. Third St., Louisville 1, Ky.

▲ Mention Item NED-2255 when writing ▲

Plastic Film Adhesives

National Adhesives Div., National Starch Products, Inc.—8-page booklet and manifold chart "Adhesives for Transparent Film" list in reference form the comparative characteristics of commonly-used transparent films. Properties and manufacturers of 38 different tradenamed films are given. Included are details of adhesives for bonding films, handling methods and solutions of common problems.

▲ Mention Item NED-2256 when writing ▲

Machinery Drives

Congress Drives Div., Tann Corp.—16-page illustrated catalog CD 300A gives data on pillow blocks, single and step V-belt and flat pulleys, variable pitch pulleys, shaft collars, flexible couplings and other drive components for light machinery. Information is presented to aid in selecting the proper drive for a given machine.

▲ Mention Item NED-2257 when writing ▲

Electric Plants

D. W. Onan & Sons Inc.—Two illustrated catalogs Nos. A-168 and A-192 present complete data on gasoline driven electric plants ranging from 260 to 35,000 w in all standard voltages, frequencies and phases and on diesel driven electric generating plants ranging from 2500-w air cooled units to 60,000-w water cooled plants.

▲ Mention Item NED-2258 when writing ▲

Brick Palletization

Gerrard Steel Strapping Co.—"The Hottest Thing in Brick Handling" is title of 8-page illustrated pamphlet which discusses palletization of brick for easy handling by fork trucks. Bricks in loads of 500 are palletized by Albaco corrugated board pallet device with reinforcement provided by six 12-gage Gerrard round steel straps applied by model K strapping tool.

▲ Mention Item NED-2259 when writing ▲

Stainless Steel

Armco Steel Corp.—12-page illustrated booklet "Stainless Steels and Textiles" explains how stainless can be used in textile equipment to reduce costs and improve quality. Tables show resistance of various grades of stainless steel to corrosion by different dyestuffs and chemicals.

▲ Mention Item NED-2260 when writing ▲

Cellulose Plastics Extrusion

Tennessee Eastman Corp.—"Tenite Extrusion," third edition, contains 28 pages of information on equipment and handling of material for successful continuous extrusion of Tenite I cellulose acetate plastic and Tenite II cellulose acetate butyrate plastic. Special sections deal with extrusion of Tenite tubing and sheeting.

▲ Mention Item NED-2261 when writing ▲

Arc Welding Procedure

"Electric Arc Welding" is title of 544-page illustrated manual and text book on electric arc welding procedure and practice. Twenty-eight chapters are divided into five parts covering general information, operator training, carbon arc welding and cutting, other welding processes, and welding terms and their definitions. Price is $3. Obtainable from Hobart Trade School, Inc., Box EW-146, Troy, O.

▲ Mention Item NED-2262 when writing ▲

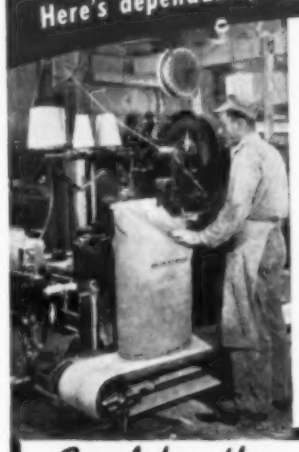
Trash & Sewage Pump

Fairbanks, Morse & Co.—Design and application features of recently developed single passage, bladeless impeller type sewage and trash pump are covered thoroughly in 16-page illustrated bulletin 5400K-1. Vertical and horizontal models are available in sizes from 2 to 5 in.

▲ Mention Item NED-2263 when writing ▲

UNION SPECIAL

Here's dependable, high speed bag closing . . .



to help you cut plant costs

At today's high operating costs, you can't afford to have inefficient production methods in your plant. That's why it pays to take advantage of Union Special's faster, more dependable, more economical bag closing equipment. For recommendations, see or write your local Union Special representative.

Send for this New Bulletin

Use this new 16 page illustrated bulletin to quickly select the right machine for the job. Ask for Bulletin No. 200.

Union Special Machine Company
416 N. Franklin St.
Chicago 10, Ill.

▲ Mention Item NED-2264 when writing ▲

The New 1950 REZNOR
Automatic Gas Unit Heater

SUSPENDED OR FLOOR TYPE

• For up-to-the-minute heating in stores, offices and factories get the New Reznor 1950 heater . . . now coming off the production lines. Automatic, gas-fired, and clean, they also give low-cost heat for large and small areas. Reznors are the world's biggest selling gas unit heaters. Refer to your phone book or write.

Gas Unit Heaters Since 1888

REZNOR MANUFACTURING CO. • 14 UNION ST. • MERCER, PENNA.

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SEND FOR YOURS TODAY!

HARPER COMPUTOR of corrosion resistance

Gives you a quick, easy method of determining what metal alloys to use in connection with 143 different corrosive agents. Ideal for metallurgists, product designers, engineers, chemists, purchasing agents. Sized to fit your pocket. Developed by The H. M. Harper Co., America's leading specialist in nonferrous and stainless steel fastenings.

FREE
MAIL COUPON TODAY

The H. M. Harper Company
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Please rush my free copy of the Harper Computer of Corrosion Resistance.
Name .....
Company .....
Address .....
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▲ Mention Item NED-2266 when writing ▲

One man picks up, delivers directly where needed and unloads, easier, faster, safer, with a Cleveland Tramrail overhead system and sheet grab. Hand or electrically operated equipment.

GET THIS BOOK! BOOK No. 2008 Packed with valuable information. . . .

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6627 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

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MICROCASTING
Eliminates 15 machine Operations
AT 1/3 THE COST

This particular part is a cutting knife used on knitting machinery. It originally was made from a free-machining alloy and was shaped, drilled, and ground. Fifteen machine operations were required. As the metal was relatively soft for the purpose of the part, replacements were heavy.

The Microcast Process of precision casting produced this same part with only a grinding operation required. Because the Microcast Process eliminated virtually all machining operations, it was practicable to utilize the extremely hard Stellite "J" Metal for a longer life. This Microcast part was produced for ⅓ of the cost of the previous method.

WRITE FOR FREE BOOKLET

More complete information on the Microcast Process is contained in a 16-page booklet which describes many applications for Microcast and includes specifications and a step-by-step explanation of the process itself. Write for this valuable booklet today!

MICROCAST T.M. REG. U.S. PAT. OFF.

MICROCAST PRECISION CASTINGS PROCESS

MICROCAST DIVISION
AUSTENAL LABORATORIES, INC.
224 East 39th Street • New York 16, New York
715 East 69th Place • Chicago 37, Illinois

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2265

SEE—TEST—FEEL the LATEST Developments in GASKET, WASHER and SEALING materials

FREE GUIDE brings you over 50 ACTUAL SAMPLES!

If you manufacture products employing gaskets, washers, seals, sound-deadening materials, dampening materials, dielectrics, etc., this GUIDE TO BETTER SEALING will be sent to you without cost or obligation.

The GUIDE contains 50 actual samples of the most commonly-used sealing materials, which Fel-Pro supplies to such leading companies as American Can, Baldwin Locomotive, DuPont, General Electric, Packard, Pure Oil, Quaker Oats, Standard Oil, Western Electric and Westinghouse.

TEST THEM YOURSELF
FEL-PRO'S GUIDE TO BETTER SEALING makes it possible for you to closely inspect a wide range of materials, test them under all kinds of conditions in your own plant, treat them chemically or make any other tests to help you decide which are best suited for your particular needs.

GIVES FULL SPECIFICATIONS
Among the sample materials contained in this SEALING GUIDE are such newly-developed materials as the revolutionary "Fel-Pro 131". This material is particularly suited to automotive engine parts, chassis parts, pumps, high compression flanges, etc., because of its low swell (just 2%) and exceptional durometer hardness of up to 80 plus or minus 5. Complete specifications are given for each of the 50 material samples, including durometer readings, sheet and roll sizes, applications, etc.

PARTIAL CONTENTS
Felbestos 100 for manifold and hot-spot applications!
Metallic Gasket Materials!
Fel-Pro 131 the new low-cost rubber!
Karropak treated to maintain uniformity!
Fel-Pak for water, oil, etc., connections!
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SEND TODAY
To get your FREE copy of the FEL-PRO GUIDE TO BETTER SEALING without obligation, just write your name and title on your company letterhead and mail to: Felt Products Mfg. Co., 1510 Carroll Avenue, Chicago 7, Illinois.

LOOK TO FEL-PRO for the LATEST in sealing materials

Mention Item NED-2184 when writing

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Mobile Industrial Crane

Silent Hoist & Crane Co.—6-page illustrated folder describes 5-ton capacity Karri-Go front-boom industrial crane which will lift, carry, push, pull and place materials in all types of industrial plants.

Mention Item NED-2185 when writing

Voltage Regulators

Sorenson & Co.—12 and 8-page illustrated catalogs A-1049 and B-1049 are descriptive of alternating current regulators, and direct current power sources and regulators, respectively. Electronic in operation, these units assure source of constant voltage power for all types of industrial and research use.

Mention Item NED-2186 when writing

Small Gear Hobber

Hamilton Tool Co.—Complete details of No. 00 gear hobber for high speed, continuous hobbing of small precision spur gears, pinions and special tooth forms are offered in 4-page illustrated bulletin H-00-49. Machine will generate gears from 0.05 to 2-in. OD up to 1.6-in. face and to 280 diametral pitch.

Mention Item NED-2187 when writing

Adjustable Speed Drives

General Electric Co.—Five illustrated bulletins Nos. GEA-5334, GEA-4883, GEA-5335, GEA-5336 and GEA-5337 carry titles of "Adjustable Speed," "Adjustable-Speed ACA Motors," "Speed Variator," "Electronic Speed Variator," and "Thy-Mo-Trol Adjustable-Speed Drives." This series of bulletins, totaling 68 pages, covers many phases of adjustable-speed drives.

Mention Item NED-2188 when writing

Rolling Doors

Cornell Iron Works, Inc.—12-page illustrated catalog No. Z-27 contains design data and application information on line of rolling doors which includes rolling and sliding steel grilles, moving stairway enclosures, side rolling partitions and special upward-acting doors. Sizes and styles of rolling doors are available to suit practically any industrial or commercial need.

Mention Item NED-2189 when writing

Portable Tools

Rotor Tool Co.—24-page illustrated technical article "How to Choose and Use Portable Tools," by H. P. Bailey, discusses method of establishing cost of operating portable tools, selecting tools, standard and semistandard tools, compressed air supply and cost, air power distribution, hose selection and other subjects.

Mention Item NED-2190 when writing

Nickel Alloys

International Nickel Co.—Available booklets, technical bulletins and periodicals on nickel alloys are listed and outlined briefly in 8-page list B. Publications giving information on various types of Monel, nickel, low carbon nickel, Duranickel, and Inconel are covered.

Mention Item NED-2191 when writing

Hydro-Pneumatic Pressure Systems

Peerless Pump Div., Food Machinery & Chemical Corp. —30-page illustrated bulletin No. B-579 presents detailed and thorough summary of inter-relationship required of components for hydro-pneumatic systems. Working charts, tables and diagrammatic drawings facilitate solution of common problems.

Mention Item NED-2192 when writing

Punch Presses

Diamond Machine Tool Co.—Multi-Max double crank punch presses having large bolster area and 30-ton capacity are described in 8-page illustrated catalog "Diamond Punch Presses." Special models having friction clutch and variable speed arrangments are depicted also.

Mention Item NED-2193 when writing

Air & Gas Compressors

Pennsylvania Pump & Compressor Co.—24-page illustrated bulletin "Horizontal Duplex Heavy Duty Compressors" contains complete data on air and gas compressors of double-acting water-cooled type for either single or two-stage compression. Two-stage types are available in standard sizes with capacities up to 2270-cu ft piston displacement for pressures of 80 to 125 psi.

Mention Item NED-2194 when writing

Optical Comparator

Eastman Kodak Co., Industrial Optical Div.—Contour Projector for rapid optical inspection of parts by comparing enlarged image of part with tolerance chart is discussed in 8-page illustrated booklet "Kodak Contour Projector." Surface projection for inspecting blind holes and dimensions that can not be silhouetted is depicted.

Mention Item NED-2195 when writing

Electroline WIRE ROPE FITTINGS The LAST WORD in

SAFETY—No heat, acids or complicated equipment required for installation. Ordinary mechanic's tools do the job, safely, even in chemical plants, powder plants and mines, where other methods would be prohibited.

MAKE CONNECTIONS SAFE . . . because they have the highest holding strength of any known wire rope or strand connectors.

SAVINGS—In Installation, because unskilled labor can easily do the job . . . and quickly. In Use, because they prolong wire rope life by damping vibration and overcoming rope fatigue at entrance to fitting . . . and because they are reclaimable.

Note ease of installation.

Send for new descriptive catalog.

Simply slip the sleeve over the cable, spread the strands, insert and drive in the plug then apply the socket. See what a solid and permanent joint you have by looking at it through the inspection hole put there for the purpose.

Electroline Company
4121 SOUTH LA SALLE STREET • CHICAGO 9, ILLINOIS

Mention Item NED-2196 when writing

TANK HEATING AND COOLING COSTS LESS with . . .

PLATECOIL
Replaces Pipe Coil

LESS MAINTENANCE
Weighs less than half as much as equivalent pipe coil. Platecoil is easy to handle. Installation can be made in ½ hour by one man and a helper.

MORE PRODUCTIVE CAPACITY
Platecoil has more prime surface per sq. ft. of area than pipe coil, heats faster, and leaves more tank space for production work.

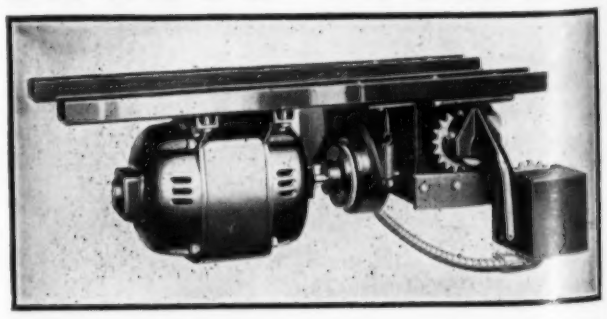
NO LOSS OF SOLUTION
Platecoil can be removed from outside of tank in a matter of minutes without dumping. All connections above liquid level.

Write Today For New Free Bulletin No. P57

PLATECOIL Division KOLD-HOLD MFG. CO. LANSING 4, MICHIGAN

Mention Item NED-2197 when writing

BARBER-COLMAN



Electric DOOR OPERATORS . . . FOR DOORS and GATES

SAVE time, save trouble, save money . . . improve efficiency, reduce heating costs, eliminate drafts, make door-opening easy . . . with Barcol Electric Door Operators. Models available for swinging, sliding, overhead, or steel rolling doors, and for sliding gates. Built-in safety features. See your Barcol representative for details, or write us for descriptive bulletins.

BARCOL

FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES in PRINCIPAL CITIES

BARBER-COLMAN COMPANY
108 MILL ST. • ROCKFORD • ILLINOIS

Mention Item NED-2198 when writing

Portable Tester

50,000 VOLTS
5 KVA

This is one of our most popular a-c testing equipments—suitable for testing motors up to approximately 200 hp and transformers up to about 2500 kva.

Operates on 60-cycle, 115/230-volt supply. Provides smooth, stepless test voltages over the entire range from practically zero to 50 kv. Has accurate, double-scale voltmeter and is equipped with an air circuit breaker with overload trip. Safety features—including foot switch, grounding lead, screen, and signal lamp—protect operators.

All wheels are equipped with roller bearings. Projected floor space is 41" x 26"—over-all height is 44".

For information on G-E's complete line of portable a-c high-potential test sets, write for Bulletin GEA-4477, *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

401-85

▲ Mention Item NED-2199 when writing ▲

Handle Bulk Materials by Mechanical VIBRATION with the JEFFREY MV Conveyor

It's New. (Patent Pending) Handles all kinds of bulk materials—dry or wet, hot or cold, fine or coarse, abrasive, lumpy or rough. Operates mechanically instead of by electric impulse. Large power savings.

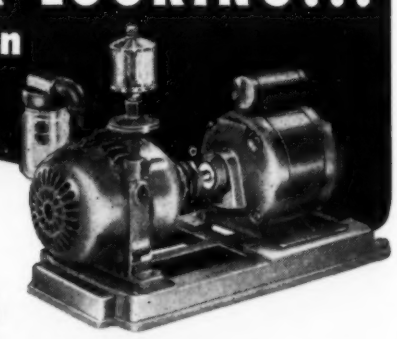
The Jeffrey MV conveys chemicals or food products horizontally, downhill or uphill as steep as 10°. V-belt drive unit will operate two equal lengths of conveyor sections up to 80 feet. Floor or suspension - mounted — open, closed or tubular decks. Ask for Bulletin No. 826.

JEFFREY

THE JEFFREY MANUFACTURING CO.
952 Fourth St., Columbus 16, Ohio

▲ Mention Item NED-2200 when writing ▲

BETTER LOOKING... better than ever!



GAST rotary AIR PUMPS

NOW—THE SAME DEPENDABLE GAST ROTARY PUMPS + IMPROVED HOUSING DESIGN = FIVE EXTRA ADVANTAGES...

1—New fin housings provide greater cooling surface...
2—Streamlined appearance, simpler, better looking...
3—Same mounting dimensions ... interchangeable with older Gast models...
4—More compact than ever, total height is lower...
5—Improved port design...

As original equipment, GAST rotary-design Air Pumps offer greater-than-ever values . . . in *improved salability for your product.* Air compressors in 5 sizes provide positive pressure range up to 30 P.S.I. — displacement to 21 C.F.M. Dry Vacuum Pumps in 5 sizes produce vacuum to 28 inches — displacement to 21 C.F.M.

WRITE FOR NEW CONDENSED CATALOG—BULLETIN 549-A

"AIR may be your Answer!"

GAST ROTARY — AIR MOTORS (TO ONE H.P.) · COMPRESSORS (TO 30 LBS.) · VACUUM PUMPS (TO 28 INCHES)
GAST MANUFACTURING CORP., 115 Hinkley St., Benton Harbor, Mich.

▲ Mention Item NED-2201 when writing ▲

New Literature—Continued

Use Inquiry Slip enclosed between pages 4-5 or 68-69 to obtain any of the new literature reviewed on these pages

Level Measuring Instruments

Fischer & Porter Co.—24-page illustrated catalog No. 75 deals with line of Levelimeter instruments which indicate, measure and control liquid and interface level. Variations in liquid level in weirs and flumes are utilized for measurement and control of large flow rates.

▲ Mention Item NED-2202 when writing ▲

Incandescent Lighting Equipment

Gruber Brothers, Inc.—18-page illustrated catalog No. I-49 shows more than 25 different incandescent units which are available in over 75 sizes. Complete engineering data with candlepower distribution curves, photometric efficiency and coefficients of utilization are included.

▲ Mention Item NED-2203 when writing ▲

Carbide & Abrasive Tools

Metal Removal Co.—Engineering data and prices are presented in 8-page illustrated catalog No. 20 on carbide burrs, high-speed steel cutters, mandrels, mounted wheels, abrasive cartridges and polishing wheels. Also described is Roto-Master carbide grinder designed to operate at 38,000 rpm.

▲ Mention Item NED-2204 when writing ▲

Pipe Tools & Machines

Beaver Pipe Tools, Inc.—Complete information on line of pipe tools, machines, power drives and threading oil is presented in illustrated catalog No. 50. Operating advantages are fully explained and ordering specifications concisely tabulated.

▲ Mention Item NED-2205 when writing ▲

Electrical Connectors

Ilsco Copper Tube & Products, Inc.—68-page illustrated catalog No. 50 provides comprehensive information on line of electrical lugs, connectors and related accessories. Data listed include ampere ratings, wire sizes and weights.

▲ Mention Item NED-2206 when writing ▲

Grinding Machines

Cincinnati Milling & Grinding Machines, Inc.—48-page illustrated 1950 catalog No. M-1684 lists machines for milling, broaching, cutter sharpening, grinding, lapping and flame hardening. New data on large plain center type grinding machines and on cutter grinding machines are included.

▲ Mention Item NED-2207 when writing ▲

Floating Disk Clutch

Carlyle Johnson Machine Co.—1950 Maxitorq catalog presents engineering drawings, cutaway illustrations and complete specifications covering eight standard sizes of floating disk clutches rated from ¼ to 15 hp at 100 rpm in single and double wet or dry types. Included are typical installations, suggestions for correct clutch operation and maintenance instructions.

▲ Mention Item NED-2208 when writing ▲

Internal Grinding Spindles

Pope Machinery Corp.—72-page illustrated catalog No. 57 is designed as aid to quick accurate selection of correct internal grinding spindle for any given application. Data are indexed according to type of spindle, such as removable extension arbor, solid extension and deep hole, as well as by make of grinding machine to which spindle applies.

▲ Mention Item NED-2209 when writing ▲

Plastic Fabrication

Plax Corp.—Recommended techniques for machining and working of polystyrene are summarized in 8-page guidebook "Fabrication of Polystyrene." Use of coolants sawing, turning, milling, drilling, threading, tapping, grinding, annealing, polishing, forming, cementing, die-cutting and stress-checking are covered.

▲ Mention Item NED-2210 when writing ▲

Chromium Chemicals

Diamond Alkali Co.—32-page handbook on chromium chemicals depicts their general and diversified applications in more than 17 industries. Concise data on bichromate of soda, its manufacture and principal uses including leather tanning, production of dry colors and synthetic chemicals are listed also.

▲ Mention Item NED-2211 when writing ▲

Quick-Change Chucks

Scully-Jones & Co.—Illustrated folder No. 7-1 tells how to speed up production by giving multiple spindle range to single spindle presses and radial drills through use of quick-change chucks and collets. Manual contains drawings and specifications on four styles of collets which will accommodate wide range of tools including drills, reamers, boring bars, counterbores and core drills.

▲ Mention Item NED-2212 when writing ▲

SPEED UP DIE MAKING

OLIVER OF ADRIAN

OLIVER DIE MAKERS are *faster, more accurate* and will SAVE as much as 50 to 60% of the labor on your die costs. Modernize your tool room. Old, obsolete, hand methods of die making are *expensive, slow* and *laborious.*

OLIVER DIE MAKERS are made in five models. The Heavy Duty Oliver Die Maker has 6 speeds, works in metal up to 3" thick, has variable strokes to 5" plus hydraulic feed. The Oliver Bench Model S-1 is a single speed die maker for use on tool steel up to 1" thick.

WRITE today for complete technical information on OLIVER DIE MAKERS. Their versatility and reasonable cost will amaze you.

OLIVER INSTRUMENT CO.
1412 E. MAUMEE • ADRIAN, MICHIGAN

AUTOMATIC DRILL GRINDERS · TOOL & CUTTER GRINDERS—DRILL POINT THINNERS—TEMPLATE TOOL GRINDERS—FACE MILL GRINDERS—DIEMAKING MACHINES

▲ Mention Item NED-2213 when writing ▲

"We want THIS BAKER TRUCK!" said Taylor & Boggis Foundry Co.

SO—WE SOLD THEM THE PILOT MODEL OF OUR NEW FT (100% FUNCTIONAL) FORK TRUCK WHICH HAD BEEN IN THEIR PLANT ON TEST

This new, rugged, 3000-4000 lb. capacity electric fork truck was designed as a completely functional "work horse", to provide greater utility, safety and convenience, and to sell for less than any truck in its class.

For field testing we looked for the toughest operating conditions we could find, and selected a foundry where abrasive dust, congestion, heavy punishing loads, typical foundry floor conditions and continuous operation meant the most strenuous service ever asked of a truck. No industrial truck had been able to stand the gaff in this foundry.

But the Baker FT did! From the day it was installed, there was not one minute of down time! As a result, the company insisted on keeping this same pilot model.

Write us or ask your nearest Baker representative for details on the toughest, lowest-priced fork truck in its class.

BAKER INDUSTRIAL TRUCK DIVISION of the Baker-Raulang Company
1245 WEST 80th STREET • CLEVELAND 2, OHIO
In Canada: Railway and Power Engineering Corp., Ltd.

Baker INDUSTRIAL TRUCKS

▲ Mention Item NED-2214 when writing ▲

Two FREE samples of SCOTCH Electrical Tape via GraybaR

So that you can test them for yourself . . . so that you can see they're all that we say they are; we'd like to send you a free sample of "SCOTCH" Electrical Tape No. 27 and "SCOTCH" No. 33 Electrical Tape.

No. 27 has a backing of woven glass fibers that will stand temperatures up to 300°F. It will not shrink, stretch or rot; has the very high tensile strength of 150 pounds per inch of width.

No. 33 with plastic backing enables you to give splices electrical insulation and mechanical protection with one tape and in one operation. It bonds perfectly with plastic insulation; resists deterioration and has excellent aging properties.

To get your free samples, fill in and mail the coupon today.

5024E

GRAYBAR ELECTRIC CO., INC.
420 Lexington Avenue
New York 17, N. Y.

GraybaR

Please send me my free samples of "Scotch" Electrical Tapes and also descriptive literature.

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

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"Industrial"

ACCURATE DEPENDABLE

GEARS RACKS SPROCKETS

Any Type
Any Quantity
Any Material

WE ARE READY TO SERVE YOU NOW!

THE PLANT THAT QUALITY AND SERVICE BUILT

INDUSTRIAL GEAR MFG. CO.
4541 VAN BUREN STREET CHICAGO 24, ILLINOIS

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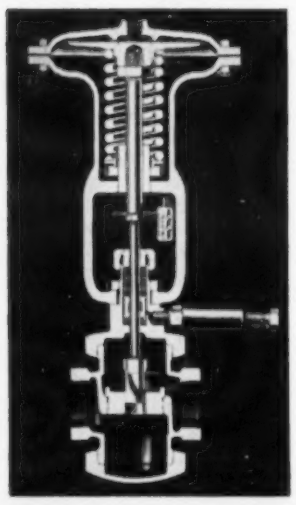
SMALL...

FISHER TYPE 510-S

RUGGED

PRESSURE REGULATOR and DIAPHRAGM CONTROL VALVE



- For direct action pressure regulators and reducing valves up to 50 pounds reduced pressure.
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This New IDEAL "Standard" Thermo-Grip offers all major features that have caused the big demand for IDEAL Thermo-Grip Soldering Tools. Resistance heating principal. Heating begins the instant work is touched. No cold flow joints—permits full adhesion of solder. Speeds production soldering! Available with "Plier", "Pencil" and "Fork" soldering attachments.

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DUAL CROSS and ROTARY FEED

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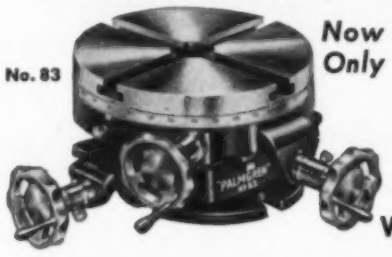
Rotary, Index, Milling Table



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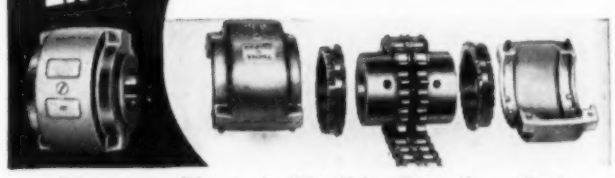
New Lightweight Casing Increases Coupling Life

New Type A casing features pliable lubrication seals at both ends of the casing, lightweight construction, and a smooth anti-snag surface.



The new Type A Flexible Coupling Casing offers protection against abrasive dust and damp corrosive atmospheres, and greatly extends coupling life. It provides excellent lubrication, reduces maintenance, and prevents lubrication throw-off. The casing allows freedom of the coupling to absorb shaft end play and misalignment, and may be installed in a space no longer than the coupling itself.

DIAMOND CHAIN COMPANY, Inc., Dept. 457, 402 Kentucky Ave., Indianapolis 7, Indiana.

Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER

New Bulletin No. 19 tabulates sizes, capacities, stock bores, list prices, and tells how to make correct selection of casings and couplings. Your copy sent on request.

DIAMOND FLEXIBLE COUPLINGS

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THE KETT POWER SAW ...A FIST-FULL OF CUTTING POWER

In the tool kit of every contractor, builder, or maintenance man . . . in every metal-working shop, the Kett Power Saw is a time and labor-saving necessity. Light-weight but rugged and powerful, the Kett tool zips with amazing ease and speed through most any kind of sheet material . . . mild steel up to 10 gauge, aluminum to 3/16", plastics and other soft material up to ¼" thick.

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The KETT TOOL COMPANY
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- **WIRE STRAIGHTENING, CUTTING** in perfect, straight lengths to 12 ft., from .0015 to .125 dia.
- **WIRE FORMS** From .0015 dia. to .080 dia.
- **SMALL METAL STAMPINGS** From .0025 to .035 thickness From .062 to 3 inches wide

We make a specialty of the production of parts for electronic and cathode ray tubes

We have the skill, capacity, experience and modern equipment to turn out an infinite variety of small forms, parts and stampings in ferrous and non-ferrous metals and alloys *accurately, economically* and *on time.*

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227 HIGH STREET NEWARK 2, NEW JERSEY

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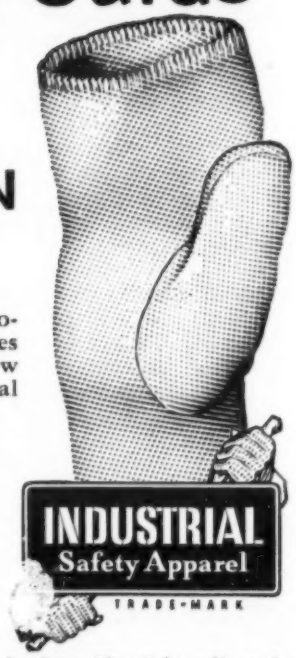
"WOVEN-Gards"

BETTER HAND PROTECTION

at amazing low cost



"Woven-Gards" are hand protectors, mitts, pads and sleeves made out of a wholly new safety material with several remarkable characteristics. They offer a flexibility, comfort, resistance to wear, abrasion, and cutting far beyond that of any materials previously used for such safety items. Next, they are extremely oil-absorbent which makes them superior for handling oily, slippery sheets and slabs. Third, the porous weave makes them the best "hot" handlers for mills and foundries Industrial has ever turned out. You have never seen protection values like "Woven-Gards" at prices so low. Thousands already sold to enthusiastic users. Send *now* for descriptive folder and prices.

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(In Canada: Safety Supply Co., Toronto)

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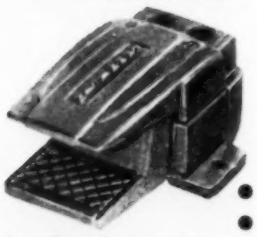
NEW! DIFFERENT!

TWO NEW VALVES FOR *Effortless* CONTROL OF AIR CYLINDERS!



TYPE NH (above)—A new hand-operated, four-way, directional air control valve. Sizes ½" and ¾". ⅜" lever motion.

TYPE NF (right)—A new foot-operated, four way, directional air control valve. Sizes ½" and ¾". With or without pedal guard.

HERE is the newest thing in air valves for operating single or double acting air cylinders! Built for *hand or foot* operation, these instant-acting valves provide fast, effortless control comparable to an electric valve—*at minimum cost.*

DISC TYPE; SELF-LAPPING—Metal-to-metal seat. Air tight. Packless.

PILOT CONTROLLED; PISTON OPERATED—Only light touch required; air does the work—shifts the main valve.

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R-O-L-L-E-R T-Y-P-E FIRE BLANKET

Envelops entire body in a few seconds... One arm is put through the rope loop and a turn of the body is all that is necessary. End of blanket automatically detaches from the roller and permits escape from danger zone if necessary.

Blanket is 80% wool—60"x80" . . . Furnished with or without weatherproof metal container.

Ready for Immediate Use

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INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

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Get BETTER PRODUCTS, LONGER TOOL and DIE LIFE with PANGBORN "Hydro-Finish"

PANGBORN HYDRO-FINISH cuts cleaning, polishing, buffing costs to the bone! Gives you . . .

BETTER PRODUCTS . . . With Hydro-Finish on your production line, surfaces hold electro-plating better, resist peeling and chipping. *Hydro-Finish* forms a "tooth" for better bonding of rubber, paint, plastics, etc. Makes threaded pieces turn easily . . . forms little oil pockets in lubricated pieces for longer wear. Eliminates burrs in machined parts and removes or blends grinding lines to reduce fatigue failure!

LONGER TOOL AND DIE LIFE . . . Jobs that formerly took hours are done *in minutes* with Hydro-Finish! You clean and improve surface of plastic and die casting dies, rubber and glass molds, forging dies, forming and deep drawing dies, without excessive metal removal. Dies are clean, produce maximum production . . . all without expensive hand maintenance!

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PANGBORNITE... *best abrasive for all liquid blasting needs. Available in many mesh sizes.*

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control Equipment.

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BLAST CLEANS CHEAPER
with the right equipment for every job

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MULTIPLE DRILLING with a MULTI-DRILL INCREASES CAPACITY UP TO 800%

ADJUSTABLE TO ANY HOLE PATTERN FITS ANY DRILL PRESS

If your production requires drilling from 2 to 8 holes in a work piece, a MULTI-DRILL will cut costs and speed output up to 800%. The MULTI-DRILL is universally adjustable to any hole pattern—is compactly built to permit easy, unhampered operation with drill jigs or other special fixtures. Ruggedly built to take the wear and tear of high production work, the MULTI-DRILL will handle your long and short run multiple drilling jobs with ease and economy. The MULTI-DRILL will drill on hole centers as close as ½"—handle drill sizes up to ⅜" in steel. Special adaptations available.

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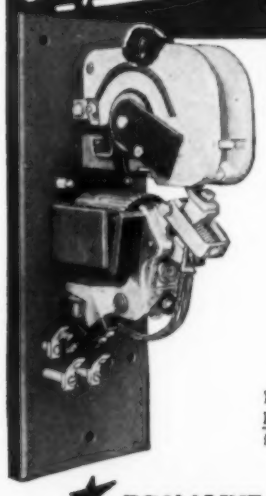

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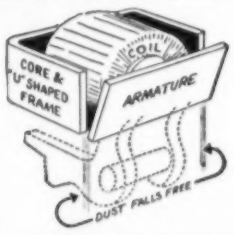

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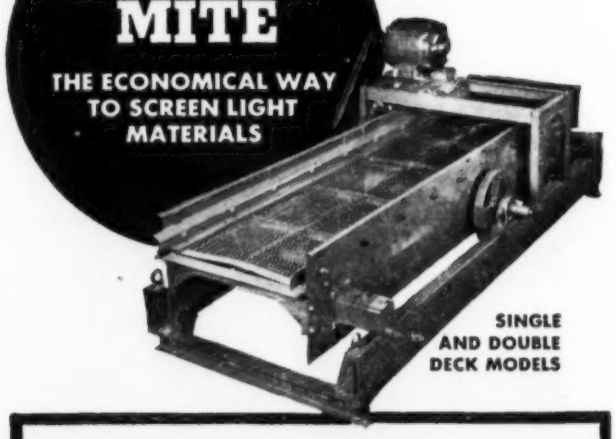

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MARCH, 1950

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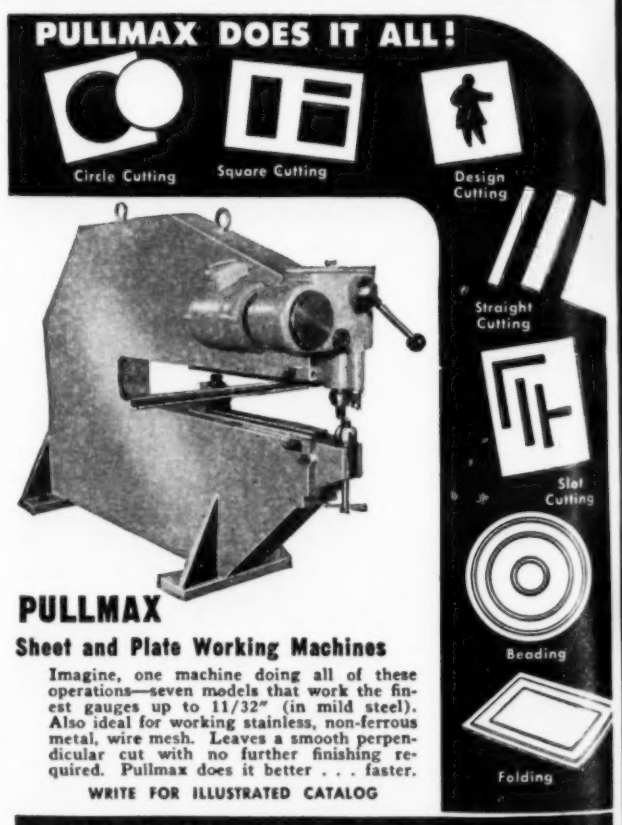

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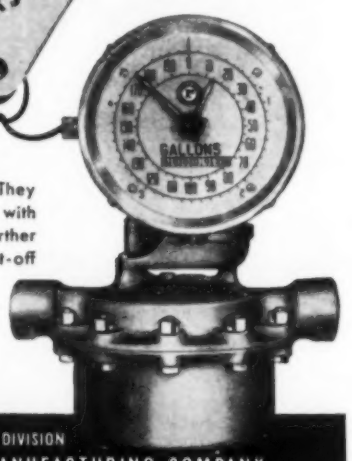

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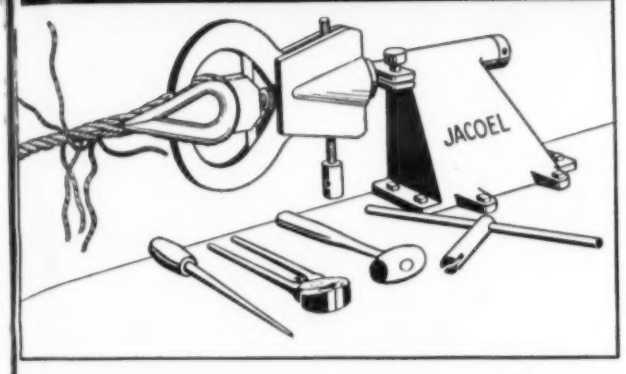

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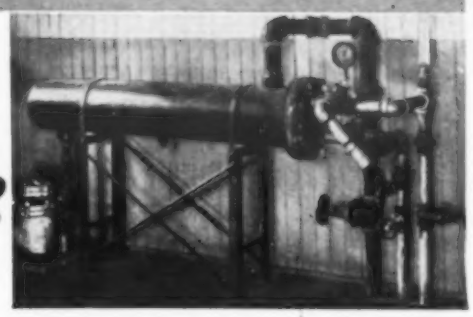

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Instantaneous Water Heaters

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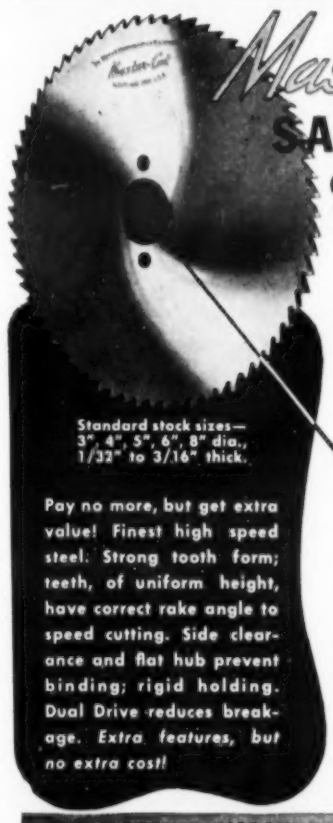

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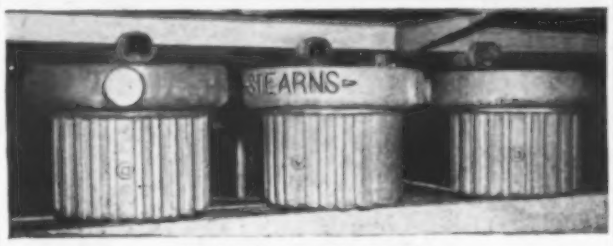

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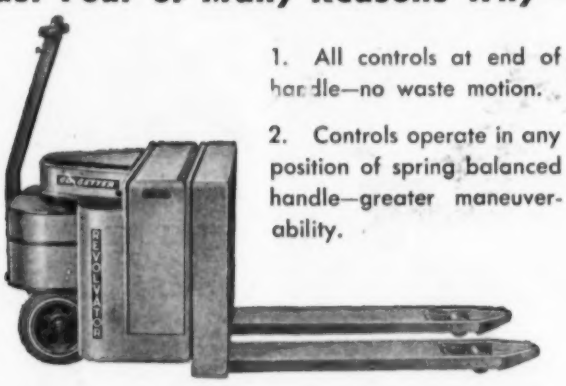

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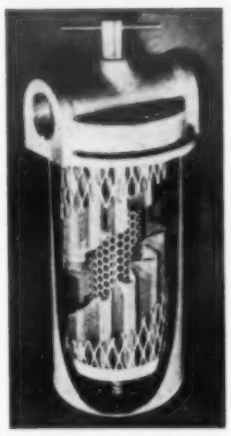
LIQUID LINE FILTER is usable in low pressure systems



Operating equally well in any position, this Synclinal filter has no moving parts and can be inserted into any pipe line carrying noncorrosive liquids. Capacities are 5, 8, 10, 20, 30 and 50 gpm. Greater capacities can be obtained by multiple installations. Head is of cast aluminum, and steel housing is designed for maximum working pressure of 125 psi. Standard model is equipped with 100-mesh wire cloth; where other gages are required, filter elements are available in sizes from 30 to 200 mesh. By removing one hand nut, filter can be disassembled. Cleaning is accomplished without disturbing pipe fittings. Made by **Marvel Engineering Co.**, Room 200, 625 W. Jackson Blvd., Chicago 6, Ill.

▲ Mention Item NED-2244 when writing ▲

QUICK-BAKE FINISHES will cure in 3 to 7 minutes

Developed for metal decorating, series of sizes, base whites and wet print finishing varnishes for application by roller-coating method will cure properly in quick-bake cycles and can be adapted to conventional longer cycles without discoloration. These coatings have good adhesion, fabrication characteristics, depth, tumbling resistance and flow. Standard thinners of high flash or mineral spirits type can be used. Made by **Watson-Standard Co.**, 225 Galveston Ave., Pittsburgh 12, Pa.

▲ Mention Item NED-2245 when writing ▲

FIXTURE & DRILL JIG LOCK cam unit operates automatically

Employed on all standard Siewek rack and pinion type drill jigs, this automatic lock is also available to manufacturers of special holding devices and machinery as fixture lock. Springs are fitted into slots and pinned at one end of retainer which is attached to handle. Braking shoes are then placed in slots in retainer resting on face of springs. Cam which is keyed to fixture shaft is placed in retainer between steel springs with flat sides of cam parallel to springs. Downward stroke of handle motivates retainer, thereby bringing springs into contact with flat sides of cam and motivating shaft. When fixture contacts work and holding pressure is developed, cam causes springs to expand, thus driving braking shoes against lock housing and locking part securely in place for machine operation. Made by **Siewek Tool Co.**, 2862 E. Grand Blvd., Detroit 2, Mich.

▲ Mention Item NED-2246 when writing ▲

INDUSTRIAL NoDrip

COVER PIPES TANKS, WALLS

Anyone can brush, trowel or spray NoDrip on any clean, dry surface. Goes on like plaster, forms a seamless, protective coating, *STOPS CONDENSATION DRIP.*

NoDrip keeps equipment and floors safe and dry; prevents corrosion of metal and prolongs its life. Acid, alkali and brine resistant. Comes in 1, 5 and 55 gal. drums, ready for use.

TRY NoDRIP—Apply NoDrip to a small area, compare the results with uncovered portions

Send for NoDrip Handbook

J. W. MORTELL CO.
526 BURCH ST. KANKAKEE, ILL

▲ Mention Item NED-2247 when writing ▲

NEW VAN DORN SANDER IDEAL for TOUCH-UP JOBS, INTERMITTENT SERVICE!

NOW you can get the famous versatility of Van Dorn Sanders in a low-priced, intermittent service tool! Sanding, grinding, wire brushing—the new Van Dorn 7" Junior Sander does all three — better, faster, cheaper! Universal motor in line with spindle and "right-angle" handles give perfect operating control, better balance, greater compactness. Weighs only 8 lbs. Heat-treated gears and grease-sealed ball bearings throughout. Ask your nearby Van Dorn Distributor for a demonstration. Write for free catalog to: THE VAN DORN ELECTRIC TOOL CO., 762 Joppa Road, Towson 4, Md.

FOR POWER SPECIFY **"Van Dorn"** PORTABLE ELECTRIC TOOLS (Div. of Black & Decker Mfg. Co.)

▲ Mention Item NED-2248 when writing ▲

You can *SEE* the Superiority of A-F Engineering!

In this large plant heavy oil drums are handled more quickly, easily and economically because of the A-F plant-wide *Engineered* Conveying System. At this point is a scale for weighing the filled drums which move on the A-F Live Roller Conveyor line at right angles to A-F Gravity Roller Conveyors to storage—ready for moving at an instant's notice to shipping. How can an A-F Conveying System increase production for you? Write today!

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TAMP SMOOTH! TRUCK OVER

Use durable INSTANT-USE . . . a tough, plastic material which you simply shovel into hole—tamp—and run traffic over immediately. NO WAITING. Bonds tight to old concrete. Makes smooth, solid, heavy-duty patch or complete overlay. Withstands extreme load. Keep a drum on hand for emergencies. Immediate shipment.

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▲ Mention Item NED-2250 when writing ▲